A COMPARATIVE ANALYSIS OF HIGHER EDUCATION FUNDING IN INDIANA AND ITS SURROUNDING STATES: IS THERE A RELATIONSHIP BETWEEN FINANCIAL CAPACITY AND COMPETITIVENESS?

HONORS 499 -- SENIOR THESIS

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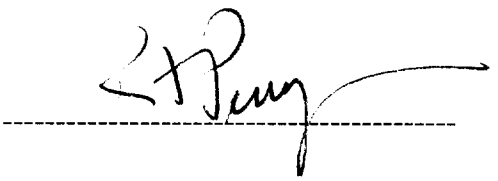

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Again, I want to express my most sincere appreciation for this opportunity.

Abstract

This investigation entailed a five state study of higher education at state-supported institutions in Indiana and the four surrounding states. The analysis attempted to determine whether or not a relationship exists in state government policy regarding financial capacity and competitiveness in higher education. It evaluated the plausibility of any connection between these two concepts, financial capacity and competitiveness. Ultimately, it was an effort to define further certain variables in order to evidence a relationship between the higher education policies of state government and the results of those policies.

It was concluded that no direct correlation exists between those variables of financial capacity and competitiveness that were studied in this investigation. Notwithstanding that, state government policy certainly influences the competitiveness of its institutions; however, other variables outside of state policy must be considered as well.

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I. Introduction

The responsibility of state government is to set policy for the common good of its citizens. This responsibility is both enormous in financial terms and serious in practical application in the every day lives of its citizens. Financially, the state must appropriate funds to facilitate the growth of the state. In practical terms, these funds must support countless programs that advance the lives of the citizens. Among these expenditures is the appropriation for the provision of higher education services within the state. This commitment to fund higher education services may have a greater and more valuable long-term impact than any other expenditures a state may choose to make.

The strength of a state's commitment for higher education distinguishes it from the other forty-nine states. It defines not only the financial obligation, but also the culmination of an overall effort to educate the state's students. Herein lies the challenge for state governments. State governments are charged, and expected, to support a system of higher education that encourages the availability of preeminent learning opportunities, a prominent system of high quality institutions that are competitive among their peers.

II. Financial Capacity and Competitiveness

A state's financial capacity and the competitiveness of its system of higher education are two concepts which exist mutually, yet they are interrelated in the determination of each other. This indicates a cause and effect relationship where the concept of financial capacity drives the concept of competitiveness. Moreover, this relationship defines each on the basis of one's ability to impact the other. However, the policy of state government ultimately determines this relationship and the resulting impact.

Financial capacity is the result of state government policy and vice versa. State tax revenue and budget appropriations are the most significant aspect of financial capacity. Financial capacity can be measured, compared, and contrasted objectively. Consequently, financial capacity is the foundation of the relationship.

Competitiveness is a more precarious determination. A state's system of higher education aspires toward prominence among the other forty-nine states. It is the result of not only a state's financial capacity, but also academic policy and individual institutional decisions. In fact, competitiveness is determined by the services a system provides and the value of those higher education opportunities at state-supported institutions. Competitiveness is measured, compared, and contrasted through both objective and subjective determinations; hence, competitiveness is the result of a state's higher education policy relative to the concept of financial capacity.

III. The State of Indiana

The state of Indiana and its system of higher education are the focus of this analysis. The role of Indiana state government policy in defining financial capacity and competitiveness will be evaluated with respect to the four surrounding states: Illinois, Kentucky, Michigan, and Ohio.

Indiana's system of higher education receives its funding from the budget of the state and student tuition. This funding is one of many appropriations for which the state is responsible. Other state appropriations include expenditures such as law enforcement, corrections, public school education, and highway maintenance.

Indiana's system of higher education is comprised of institutions which provide higher educational opportunities primarily for the citizens of the state. The higher education policy of Indiana's state government is to maintain a quality system. Such a system strives to prepare each of its students to compete and succeed in the job market. This goal is facilitated by the need of the citizens to further their education in an affordable institution of higher education.

Setting Indiana state policy that promotes a quality, competitive system is a difficult task. Many other budget areas exist and place financial constraints on higher education funding. Such areas are actually competitors for the limited resources of the state. This restricts appropriations for higher education. The impact of these constraints can affect the financial capacity and competitiveness of higher education within the state, especially with respect to systems in other states.

IV. The Four Surrounding States: Illinois, Kentucky, Michigan, and Ohio

The four surrounding states of Illinois, Kentucky, Michigan, and Ohio face challenges similar to Indiana in funding their systems of higher education. They must also set state government policy that promotes a quality system of higher education. They must provide equally strong higher educational opportunities for the citizens of their state.

For the purpose of this analysis, the four states surrounding Indiana serve as points of comparison. Because of their close geographic proximity, Indiana must remain competitive among them. It is important for each state to advance a system of higher education that is attractive to it citizens. Such a system must provide access to quality higher education services that ultimately prepare students to compete in the job market. These higher education opportunities will attract citizens to remain in their home state for their education.

V. Defining Financial Capacity

Theoretically, financial capacity is defined as the ability of a state, through the legislation of policy, to fund and promote a system of higher education which provides academic opportunities to the citizens of its state. However, there are various aspects of a state's policy that define and measure financial capacity. One cannot point to a single figure that defines the entire concept of capacity. A state's financial capacity is a concept that incorporates components that exist independently, yet impact each other. It is the nature of this relationship to encompass not only state government policy, but also the consequences of such policy. Nonetheless, financial capacity is a single concept that is not simply illustrated, yet it can be measured. The relationship of these measures consequently defines a state's financial capacity.

The foundation of financial capacity is a state's tax revenue. The total amount of money procured by a given state is the single most important factor in budget appropriations. Tax revenue is drawn from the citizens of the state through various means. Ultimately, it is the mandatory contribution of citizens toward the programs of state government. State policy for the funding of higher education is determined on the basis of tax revenue.

The other components of financial capacity are state appropriations, individual tuition contributions, and the measures of the relationships between appropriated dollars, procured tax revenues, individual contributions and income, and projections of a state's financial potential. Each piece of data that measures these components constitutes the definition of financial capacity.

The measures and ratios for financial capacity that are determined from the base data are critical to the analysis as they operationalize the definition of this concept. The base data are comprised of three figures including: tax revenue per capita, appropriation per full-time equivalent (FTE), and net tuition revenue per student. These data serve as the basis for more comparative measures. Additionally, it is important to define each in order to understand its application in other measures.

Tax revenue is defined as those state and local funds collected per capita, and it is representative of the wealth procured by the state (Halstead 63). It is indicative of an individual citizen's contribution toward the programs of the state. Furthermore, it serves as an excellent comparative variable for state government policy and commitment.

The state appropriation toward higher education is the variable that illustrates the financial commitment a state places on the education of the students attending its institutions. It is defined as those tax revenues apportioned for the current educational operating expenses of state-supported institutions (Halstead 65). This variable is expressed as Full-Time Equivalent (per FTE) students. The state appropriation indicates an actual monetary figure for the state contribution to higher education.

The third base component of the data is the net tuition revenue per student. It is the average tuition paid by both in-state and out-of-state students, not including student aid (Halstead 67). This tuition figure indicates the amount of money a student contributes to his or her education at a state-supported institution. It measures the financial commitment that the state expects a student to contribute to his or her education.

In addition to these base data, there are comparative measures. These are the sums, ratios, and projected (or expected) figures that are determined from the base data. These comparative measures serve as constructive tools for the evaluation of a state's financial capacity and contribute to the definition of capacity.

The first two comparative measures for the financial capacity of a state are its tax capacity and tax effort. They serve as an important evaluator of a state's potential to raise tax revenues. A state's tax capacity is defined as the amount of state and local revenue a state could accumulate if its state and local systems applied identical tax rates, the national average, to their particular tax bases (Halstead 61). In addition, a state's tax effort is defined as the percentage of state and local revenue procured with respect to tax capacity. It is the percentage of the tax capacity actually being utilized. Consequently, tax capacity and tax effort can be compared among the states as an effective evaluator of the potential wealth present.

Tax capacity and tax effort further evaluate the foundation of financial capacity, tax revenue. Notwithstanding this, there are other important variables used to measure and refine this analysis of capacity. These are other figures, sums, and ratios which combine the revenue, appropriation, and tuition data. They include the following: appropriation per FTE as a percentage of tax revenue, appropriation per FTE as a percentage of tax capacity, total educational expenditure (appropriation plus tuition), tuition as a percentage of the total higher education expenditure, and tuition as a percentage of personal disposable income.

The above variables are not only important to defining financial capacity, but they

are also an intricate part of analyzing the relationship between capacity and competitiveness. Therefore, it is necessary to explain each and its purpose.

The first is appropriation per FTE as a percentage of tax revenue, and it measures the fraction of revenue committed to an FTE's education. This ratio can be compared among states as a means for analyzing the concepts of capacity because it is related to revenue. It is also a tool for evaluating policy as it is indicative of a state's allocation of budget resources for higher education.

The appropriation per FTE as a percentage of tax capacity is another fraction measure of tax revenue. However, it differs from the above data as it utilizes tax capacity. The ratio of appropriation to tax capacity is a variable used as a base of comparison. It can be contrasted with the ratio of appropriation to tax revenue. The result is the variation between the actual commitment of tax revenue and the potential commitment of a state's capacity. The utilization of this measure augments the definition of financial capacity. It is also important in the analysis of the relationship between capacity and competitiveness.

The total educational expenditure is an aggregate figure combining appropriation and tuition. The sum of these two figures is useful for comparison among states as well. It measures the total allocation for higher education, the total amount of money spent on a student's education, and is indicative of the result of state government policy. This policy is derived from the concept of financial capacity.

Tuition as a percentage of the total educational expenditure measures the fraction of tuition with respect to the total contribution to the higher education of an individual.

It effectively calculates the magnitude of an individual's contribution to his or her education. The extent of this contribution further determines whether the state or the individual student will fund the bulk of the expenditure for higher education services. It can be compared among the states in an effort to evaluate the result of state government policy in terms of an individual's financial burden.

The final comparative measure is the measure of tuition as a percentage of personal disposable income. This is a practical measure of an individual's financial sacrifice for his or her education. The fraction of an individual's disposable income that is allocated for higher education is suggestive of state government policy in terms of state funding effectively reducing the burden for the students.

The base data and the comparative measures are all important in defining financial capacity. However, they do not exclusively delineate exactly the financial capacity of a state to fund higher education services. It is their constitution and relationship with each other that ultimately comprises a working definition of capacity. The ensuing discussion about their relationship to a system's competitiveness will clarify further this somewhat abstract variable.

VI. Defining a System's Competitiveness

As stated before, defining a system's competitiveness is a rather precarious task. It can be defined conceptually as the standard toward which state government endeavors to set its higher education policy, where state-supported institutions provide distinguished academic opportunities for the citizens of the state. There are two aspects of the concept of competitiveness that assist one in reaching a working definition for it. The first aspect of competitiveness is the value of the education one receives at a state institution. The second is the particular higher education services provided by these institutions. Assessing value involves using subjectivity in the evaluation of variables and subsequently, in the conclusions which one reaches. However, there are objective data available to use in assessing the actual higher education services provided. Nonetheless, this analysis will utilize reputation rankings for state-supported universities and the measures for enrollment and participation in the system by combining them into the single concept of competitiveness.

The academic reputation rankings evaluate the value of an education received from state institutions. They were compiled from survey data and reported in the U. S. News & World Report 1994 College Guide titled, "America's Best Colleges." U. S. News surveyed 2655 college presidents who rated institutions in the same category as their own. The magazine received a sixty-five percent response rate. In the survey, the presidents were asked to rank their peer institutions in one of four quartiles. The schools were assigned points for being ranked in a particular quartile. The total points a school received was then divided by the total number of participants who placed the school in

one of the four quartiles. The schools were then given an academic reputation ranking based on their scores among the other institutions (Morse 9).

In addition to the reputation rankings, there are two objective measures for the provision of higher education services to use in this analysis. They are the following: enrollment in institutions of higher education and the participation ratio among high school graduates.

In order to accurately evaluate any of the data, it is valuable to know the trends in enrollment. Increases in enrollment, or the lack thereof, would indicate a certain level of success in attracting and retaining students at state institutions or a declining level of success in keeping students at state-supported institutions. Enrollment expresses empirically the extent of the higher education opportunities within a state. It is defined as the annual average of FTE students enrolled in state-supported institutions per one thousand population (Halstead 59). This provision of higher education services to the population is a characteristic of competitiveness. Also, enrollment can assist in evaluating financial capacity by providing some measure of control in the assessment of capacity variables.

The participation ratio is defined as the annual FTE enrollment per high school graduate. It is indicative of the accessibility of higher education services in a state (Halstead 59). It includes in-state and out-of-state students compared to the graduates of in-state high schools. This variable of availability is important to competitiveness as it illustrates the attractiveness of higher education opportunities at state-supported universities. A high participation ratio indicates a highly competitive system in a state.

Because of the nature of competitiveness, actually defining this concept generates conjecture. Nonetheless, certain states sustain systems of higher education that are clearly more prominent. For the purpose of this study, one must concede that this is indeed the case. By acknowledging that more prominent systems exist, an environment of competition in which state-supported institutions contend with each other is defined, and the concept of competitiveness is established for further analysis.

VII. The Relationship Between Financial Capacity and Competitiveness in Indiana

Ideally, state government policy that formulates the financial capacity from which higher education services are funded should foster competitiveness in the institutions it supports. Indiana focuses its efforts toward this end. However, the question remains: Has Indiana state government legislated policy that fosters a greater promotion and use of its financial capacity over the past ten years (1982-1983 to 1992-1993) to champion a system of higher education that is competitive?

The first step in analyzing this relationship is finding a good indicator of state government policy. This indicator must incorporate characteristics of time and change, and these are embodied in the year-to-year changes, the trends, that are found in the data.

Trends, or the lack thereof, illustrate policy as they are expressive of change over a period of time. In this case, the period of time spans from 1982 to 1993. This change from year-to-year can be compared among the states. Also, policy does not always have an immediate effect; hence, specific trends may signify the sustaining impact of previous policy decisions.

The first capacity variable to examine is the state appropriation per FTE. Since it is the basic financial contribution toward a student's education, its role in developing the financial capacity of a state is paramount. However, it is difficult to assess its importance as a specific figure. Its impact on the other capacity variables exemplifies its value in this analysis.

The importance of the state appropriation is represented first in correlation with

the revenue figures (actual revenue, revenue, or tax capacity, and tax effort) of each state. In this evaluation of financial capacity, the ratios developed from the data serve as the best source of contrast.

Tax revenue per capita procured in the state of Indiana has steadily increased since 1982. However, it has consistently lagged behind Michigan, Illinois, and Ohio (see graph 1.1). The state of Indiana's capacity to raise revenue has also remained behind these three states during the same time span (graph 1.2), which one can conclude is the reason why Indiana ranks behind them in actual revenue per capita.

In order to further distinguish this situation, one must account for the difference between the actual and potential revenue (tax effort). In every year, Indiana has raised revenue under its capacity, while Michigan and Illinois collect wealth at or above the national norm (graph 1.3). Ohio also achieves a greater percentage of its capacity than Indiana, and as recent as 1992-1993, Indiana ranked fifth among these states in its tax effort (graph 1.3).

What exact impact does this have on appropriation? It is logical to assume that limited tax revenue will restrict the state appropriation toward higher education. However, this is not necessarily the case. In Indiana's case, its appropriation to higher education as a percent of tax revenue procured per capita has consistently ranked second among the five states (graph 1.4). A higher percentage of its revenue per capita is allocated for higher education, with only Kentucky achieving a higher fraction.

Besides Kentucky, Indiana is apportioning a greater proportion of its tax resources for higher education services at state-supported institutions. It is achieving this despite its

failure to utilize its entire tax capacity for raising revenue. Furthermore, the state of Indiana realizes an effective use of its financial capacity with less wealth and less potential to raise such wealth.

The role of the state's appropriation is further analyzed with respect to student tuition. Student tuition, in and of itself, is a worthwhile financial capacity variable for the analysis of this relationship because it illustrates the manner in which state higher education policy impacts the investment an individual makes toward academic opportunities at state-supported institutions. Lower tuition signifies a smaller contribution a student must make and a less significant burden he or she must bear.

Indiana has ranked third among the five states in this area since 1988. It has commanded the third lowest tuition payment from the students at its institutions, with only Illinois and Kentucky below it (graph 2.1). In terms of financial capacity, this is an important element. It demonstrates that Indiana's state government higher education policy has sustained a reduced tuition contribution; hence, the Indiana students have a lesser financial hardship than their peers in the Michigan and Ohio.

There are supplementary ratios which employ the tuition variable that further measure the concept of financial capacity. When added to the state appropriation, there exists a figure for the total allocation for a student's education (graph 2.4). This total is important in order to figure these ratios. From this one can ascertain the proportion of tuition and appropriation allocated for higher education services that ultimately influences the concept of financial capacity.

Tuition as a percent of the total expenditure is a measure for the fraction of the

total allocation that students expend for their education. A lower percentage signifies a greater commitment from the state in the form of appropriations. A higher percentage indicates that a student pays a greater amount of the total for his or her opportunities at state-supported institutions. Indiana has maintained its tuition at about thirty-five percent of the total allocation since 1982, a ranking of third among the five states (graph 2.2). Illinois is the lowest at about twenty percent.

This factor is indicative of the actual strength of sustaining a low tuition for students. Despite having the third-lowest net tuition, Indiana student contribution is a higher percentage of the total allocation, with only Kentucky and Illinois having a lower proportion. This effects the determination of financial capacity in one sense. Low tuition is good for attracting students to higher education. However, the provision of these services for students is a serious financial obligation. Accordingly, low tuition that is a lesser percentage of the total allocation is a more productive use of financial capacity as the state policy has resulted in a greater assumption of responsibility for supporting higher education by the state, yet the state is maintaining a smaller financial burden for the students.

Lastly, the financial burden manifest in this relationship should be evaluated. It is assessed as the percentage of tuition with respect to personal disposable income. A lower percentage would indicate a lesser burden in proportion to one's income. This suggests that a state utilizes its financial capacity for the benefit of its students at state-supported institutions. Also, there is a higher degree of wealth proportionally among these students. Indiana ranks fourth, the second highest percentage, among the five

states in this area with tuition exhausting an average of nearly sixteen percent of disposable income since 1982 (graph 2.3). This higher percentage would indicate a larger burden for Indiana's students.

With respect to financial capacity, the ratio of tuition to income is meaningful. In this analysis, this measure presents the argument that higher education policy and the concept of financial capacity impact the individual contribution significantly. Additionally, low tuition may not always indicate a smaller burden for the student. This is the sense in which this ratio is most critical. Subsequently, it assesses whether or not state government policy has influenced financial capacity in a manner which not only reduces the financial burden, but also is supportive of a system of higher education services that is fiscally attractive to students who are constrained unfavorably by their income.

On the contrasting side of this relationship is a system's competitiveness. Competitiveness is the concept measuring the prominence of these state-supported institutions. This analysis is examining the potential impact on competitiveness by state government policy for higher education with respect to financial capacity. It incorporates variables that are determined both objectively and subjectively. Ultimately, the conclusions one may reach about competitiveness are primarily subjective, yet they are also realistic assumptions that include components of objectivity.

The first objective variable of competitiveness is the FTE enrollment at state-supported institutions. As a state provides higher education services to its population, it attracts students to its institutions. High enrollments would demonstrate that a large

number of students are seeking educational opportunities at state institutions. By itself, this enrollment figure is not necessarily indicative of a competitive system; rather, it signifies that a state is providing many opportunities for both in-state and out-of-state students. Nevertheless, a state with a high enrollment is supporting a system that apparently is utilizing its financial capacity for competitive benefit. The state of Michigan sustains the highest rate among the states with Indiana maintaining a rate that has ranked consistently fourth since 1982 (graph 3.1).

The second objective component is the participation ratio of FTE students per high school graduate. This is a notable measure of a system's competitiveness. A high participation ratio would signify a system which provides higher education opportunities to not only its high school graduates, but also students drawn from out-of-state. This would certainly indicate that a state is competing among the others in attracting students to its institutions.

This assumption may also be associated with the notion that a state achieving a high participation ratio is setting policy that facilitates a productive use of its financial capacity in order to provide higher education services and academic opportunities that are apparently enticing students to attend state-supported institutions. As of 1992-1993, the state of Indiana ranks last among the five states. Illinois and Michigan have paralleled each other, with Michigan sustaining the highest ratio since 1987 (graph 3.2). This fact will be more clearly assessed as it is correlated with the reputation rankings.

Finally, there are the reputation rankings to consider. This is basically the point where the data culminates. It is the end toward which state higher education policy

aims. These rankings are subjective, yet they are realistically one of the best indicators of competitiveness. The 1993 rankings have been chosen in order to arrive at a meaningful present day conclusion about the impact of financial capacity.

The reputation rankings cover one category of state-supported institutions, national universities. The national universities are those that generally attract students from all over their own state and a significant number of students from out-of-state. These are generally the largest universities in the state.

The national universities are representative of the state's system of higher education in one significant aspect. They are the largest research universities, those that receive the most federal funding for their projects. These universities are generally considered the "flagship" institutions of the state and are the most prominent and most reputable state-funded institutions.

Lastly, these national universities receive the greatest investment from the state in the form of appropriations. They require the highest investment. In turn, they provide the highest degree of higher education services and sustain a greater participation of students from both in-state and out-of-state.

The reputation rankings for national universities are listed in Table 1.1. (National Universities Chart, 20 and 30-32). The "flagship" institutions are ranked based first on the individual institution's score based on the U. S. News rating. For the purpose of comparing these institutions between the states, their rankings are then averaged. This allows them to be contrasted against the variables for financial capacity. This analysis will further utilize them in the next section in drawing conclusions about the existing

relationship. Consequently, one can evaluate possible conclusions about the relationship between financial capacity and competitiveness, and can conceivably assess the plausibility therein.

VIII. Conclusions About the Potential Relationship Between Financial Capacity and Competitiveness: Is There a Plausible Connection?

From the previous assessments about financial capacity and a system's competitiveness, the analysis continues to the final step of assimilating the measures of both concepts. By contrasting these measures, one can draw conclusions about the impact financial capacity has on competitiveness. The best method by which the relationship can be examined is to consider all the variables for financial capacity with respect to the measures of competitiveness with a specific focus on Indiana. The 1992-1993 data for each variable of the five states can be cross-tabulated in order to address whether any relationship between financial capacity and competitiveness exists. Consequently, one can draw conclusions about not only the relationship, but also about the implications in Indiana.

Ultimately, a state should attempt to set higher education policy that will facilitate an effective use of its financial capacity that results in an increasingly competitive system of state-supported institutions. A direct relationship between an effective use of financial capacity and high competitiveness will evidence a high output of higher education services and a high value for those same services. Hence, when the 1992-1993 financial capacity measures for all five states are evaluated against the competitiveness measures, one can compare and contrast the outcome for each state not only individually but also against the others. The final conclusion for Indiana will result based first on its individual performance and second on how it measures up to the other four states.

The competitiveness variables for service can be evaluated against the variables

for financial capacity in the following three ways: competitiveness and services in terms of wealth and tax revenue, the state financial commitment of its tax resources to services and competitiveness, and the student financial burden. By subdividing the manner in which one evaluates the relationship, a conclusion can be reached about the strength of the relationship financial capacity and competitiveness. The conclusion about the relationship is then applicable in terms of the state, the student, and the impact of higher education policy in the state.

Tax revenue, the state's effort to raise revenue, and its capacity to raise revenue with respect to the national average are all important to financial capacity. However, the only one that displays a relationship between financial capacity and competitiveness is tax effort. There is a direct relationship among the five states between tax effort and enrollment and participation. The higher degree of effort in raising revenue furthers student enrollment and participation in the state's system of higher education. Michigan exerts the highest effort and has the highest enrollment and participation (graphs 4.1 and 4.1A).

In that comparison, Indiana ranks fifth among the five states. As of 1992-1993, it has the lowest tax effort, the lowest enrollment, and the lowest participation ratio. It raises more revenue and has a greater capacity to do so than Kentucky, yet its tax effort is lower along with its enrollment and participation, both of which rank fifth.

In the other two revenue comparisons, those between tax capacity, tax revenue raised per capita, and enrollment and participation ratio, there is no direct relationship displayed (graphs 4.2, 4.2A, 4.3 and 4.3A). Neither variable of financial capacity

directly correlates to higher education competitiveness in terms of services.

The commitment of a state's resources for higher education services may be evaluated in terms of its impact on competitiveness. This is accomplished by measuring enrollment and participation ratio as compared to the state appropriation and that appropriation as a percentage of tax revenue (graphs 5.1, 5.1A, 5.2, and 5.2A). In both cases there is no direct correlation between financial capacity and the competitiveness of the state's services.

Lastly, the student financial investment in terms of financial capacity needs to be evaluated based on the competitiveness of higher education services. The net tuition, net tuition as a percentage of the total allocation, and net tuition as a percentage of personal disposable income are all variables of financial capacity. When viewing them in comparison to enrollment and tuition, an indirect relationship would signify that financial capacity in terms of the student investment impacts the competitiveness of higher education.

In the case of all three comparisons, there is no correlation (graphs 6.1, 6.1A, 6.2, 6.2A, 6.3, and 6.3A). Michigan defies all comparisons as its sustains the highest enrollment and highest participation ratio. In contrast, Michigan commands the highest tuition; tuition as a percentage of the total allocation is second highest; and tuition as a percentage of personal disposable income is highest. In terms of financial capacity, this should not facilitate competitiveness because of the financial burden a student must bear.

The results from the comparisons between the financial capacity variables and academic reputation are scattered at best (graphs 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, and

7.8). A relationship does not appear to exist. The reputability of a state's "flagship" institutions achieve no correlation to financial capacity. This essentially discounts the presence of any relationship.

Accordingly, reputation denotes competitiveness in the value of higher education services provided by a state. However, an effective use of a state's financial capacity does not necessarily promote a competitive system of state-supported institutions.

The "flagship" institutions require the greatest investment from the state in the form of appropriations. Notwithstanding that, a state that utilizes a greater proportion of its financial capacity toward these institutions may not see resulting competitiveness from its institutions. Consequently, this signifies that a state's utilization of financial capacity in the provision of higher education services does not automatically bring about prominence in its system.

By combining the conclusions regarding the competitiveness of services (i. e. enrollment and participation) with those concerning reputability and value, one can assess the plausibility of whether or not a relationship does indeed exist. In the case of Indiana and its four surrounding states, a plausible relationship between financial capacity and competitiveness is not present. It is apparent from the cross-tabulation of the variables that competitiveness is not the result of any particular utilization of financial capacity. When viewed cumulatively, these variables illustrate that competitiveness is not specifically and distinctly connected to financial capacity.

IX. Summary and Concluding Views on Higher Education in Indiana

Higher education policy in the state of Indiana is unquestionably an important appropriation. The resources Indiana commits to its institutions are significant both financially and theoretically. The financial commitment is large in terms of actual money being appropriated for such services. Theoretically, this is an investment in the state in the hopes that economic and intellectual growth among its citizens will benefit the state. Ultimately, a sound state policy for higher education will result in a strong education for citizens, better jobs, a growing tax base, and simply, a better state in which one can live.

On the other hand, this policy must maintain a system that provides a high degree of reputable higher education services. In this respect, Indiana is performing adequately. Nonetheless, there is room for improvement. However, one cannot ignore the fact that higher education is one of many budget appropriations and states possess limited resources; hence, higher education must compete not only against the other forty-nine states, but also among other state programs. This is a dilemma that constrains financial capacity and competitiveness.

Consequently, state government must assess the priority of higher education and determine whether it will commit itself to championing a preeminent system of state-supported institutions or to maintaining simply a satisfactory system. This is the consummate challenge a state faces in setting higher education policy, the determination of priority and commitment.

Each individual institution makes decisions that also affect financial capacity and competitiveness. This must be considered as well. Institutional decision-making exhibits

priority, which is providing the best possible education for students. They are, however, constrained by the state's commitment of its financial capacity, yet they can influence competitiveness in their own decisions through the programs and curricula they sustain.

In conclusion, state government higher education policy in Indiana determines its financial capacity. However, financial capacity does not solely influence the competitiveness of Indiana's system. Numerous factors are manifest in this analysis, each of which impacts competitiveness. Priority, commitment, and the decisions of each institution must be considered.

In the end the fact remains that higher education is vital to the state of Indiana in many respects. It the intellectual locus of the state, and from it the state has a foundation on which to build and support a positive environment in which citizens can live. State government and its decision-makers must embrace these challenges and discharge their constitutional responsibilities by working aggressively to promote, support, and sustain comprehensive efforts that will not only champion a system of higher education that is nationally prominent and an economic asset for the state, but also advocate and fund one that produces students that will compete and succeed among their peers in the job market.

Works Cited

Halstead, Kent. State Profiles: Financing Public Higher Education 1978-1993. 16th ed. Washington, DC: Research Associates, Nov. 1993. 59-67.

Morse, Robert J. "America's Best Colleges." U. S. News & World Report: 1994. 9.

National Universities. "America's Best Colleges." U. S. News & World Report: 199. 20, 30-32.

Bibliography

State Profiles: Financing Public Higher Education 1978-1993. 16th ed. Washington, DC: Research Associates, 1993.

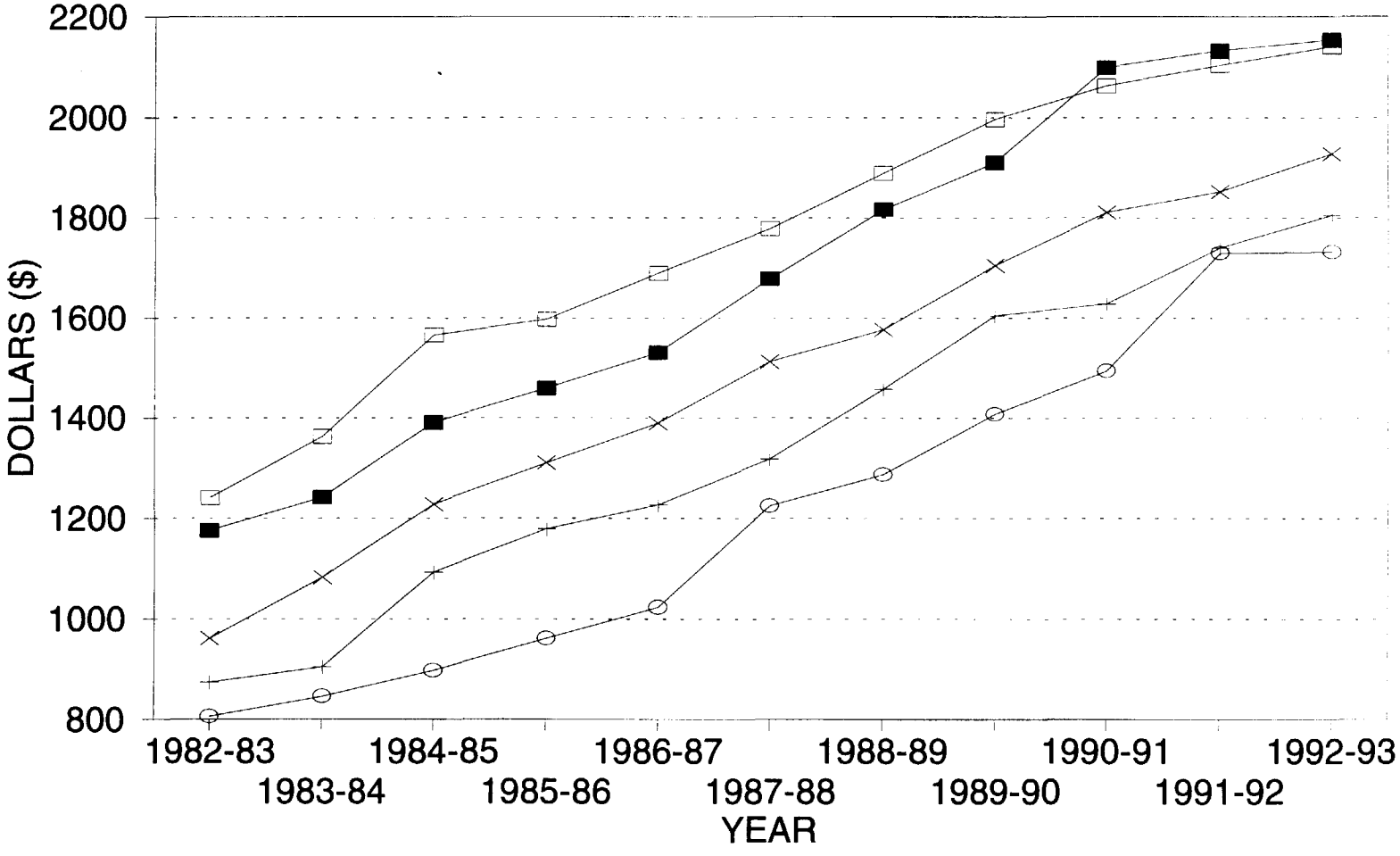
"America's Best Colleges." U. S. News & World Report: 1994.

***** All graphs and tables were created from data that were published in the above sources.**

Appendix: Graphs and Table

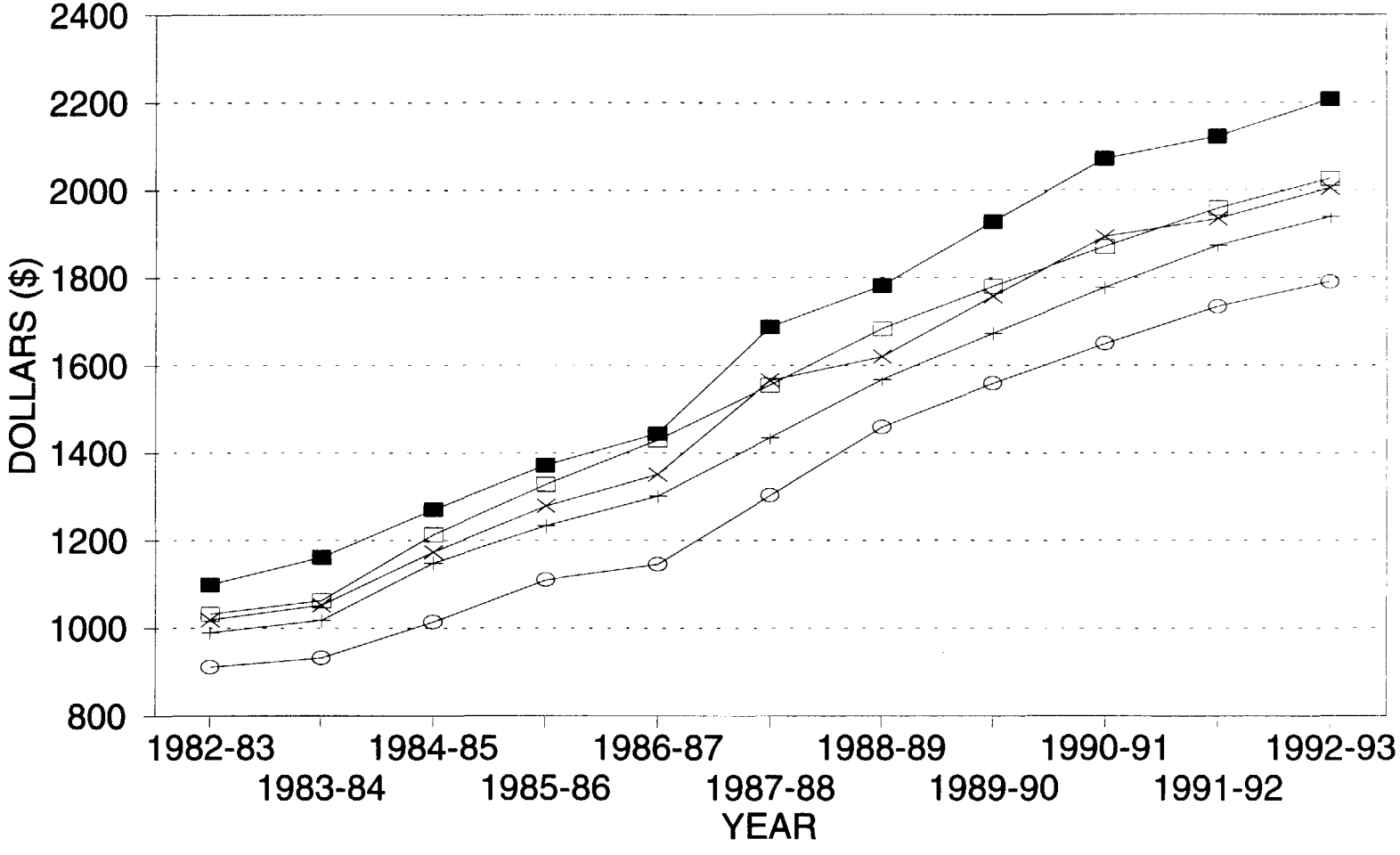
Tax Revenue

(per capita)



Graph 1.1

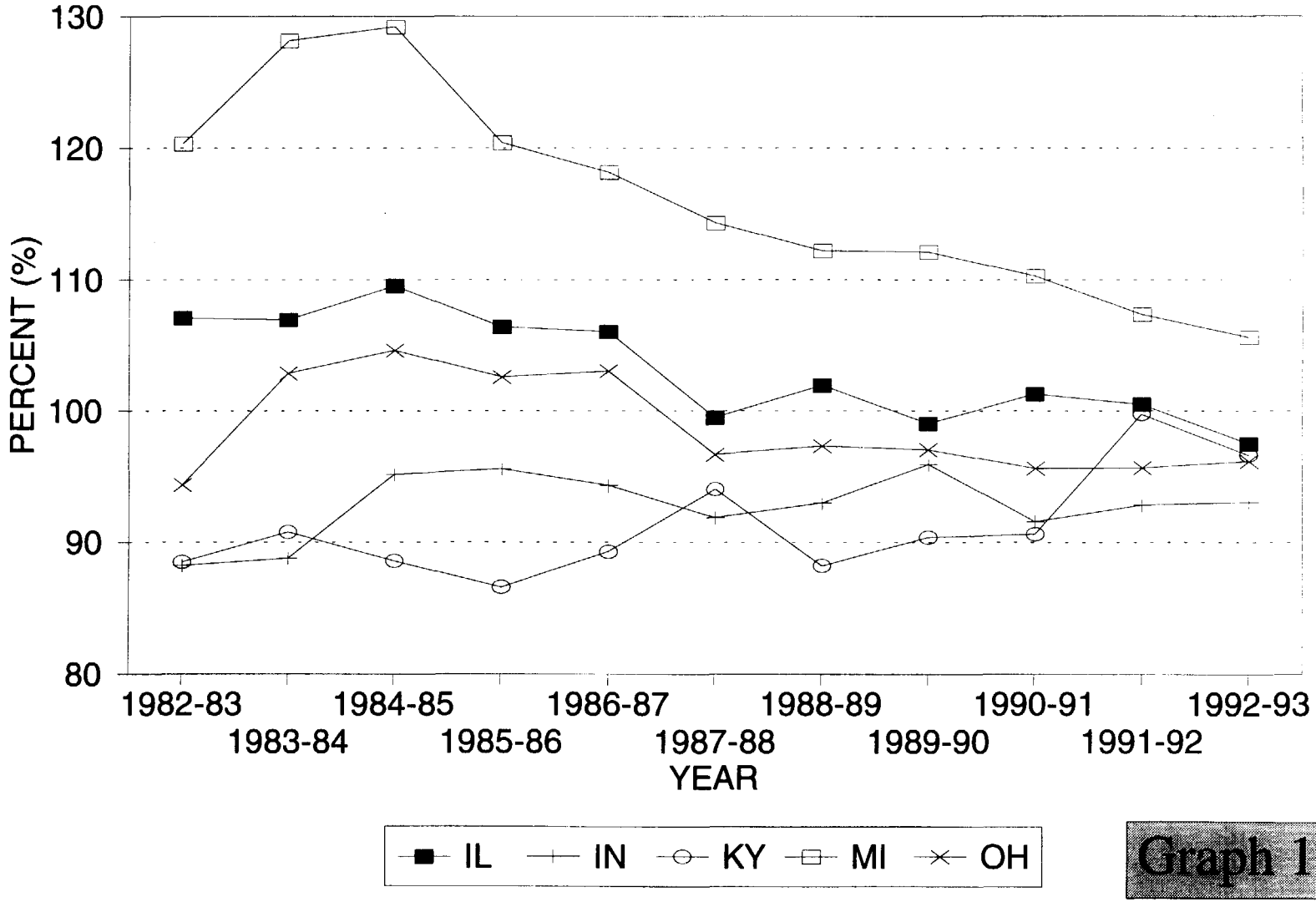
Tax Capacity
(per capita)



Graph 1.2

Tax Effort

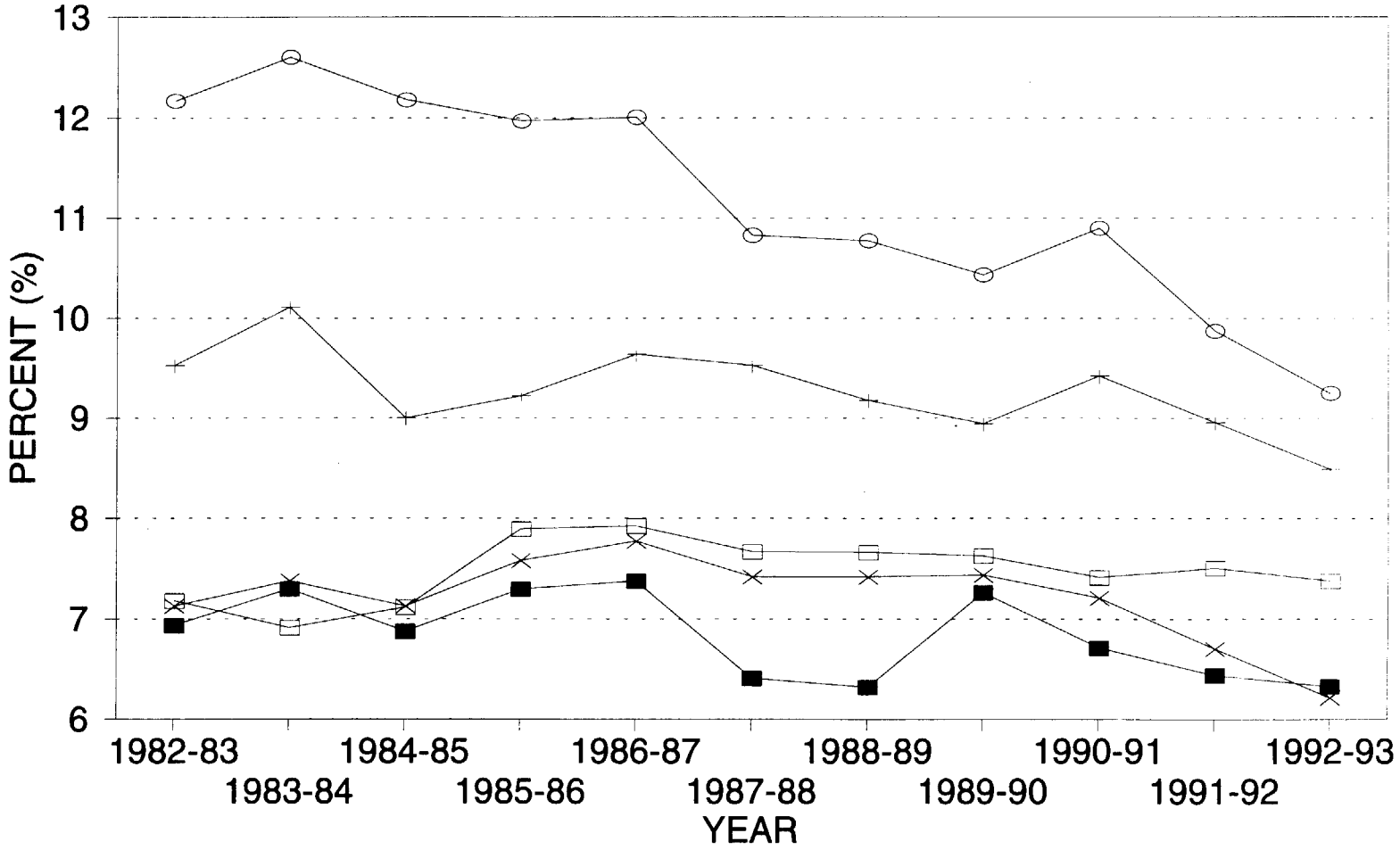
(percent of tax capacity utilized)



Graph 1.3

State Appropriation as a Percent

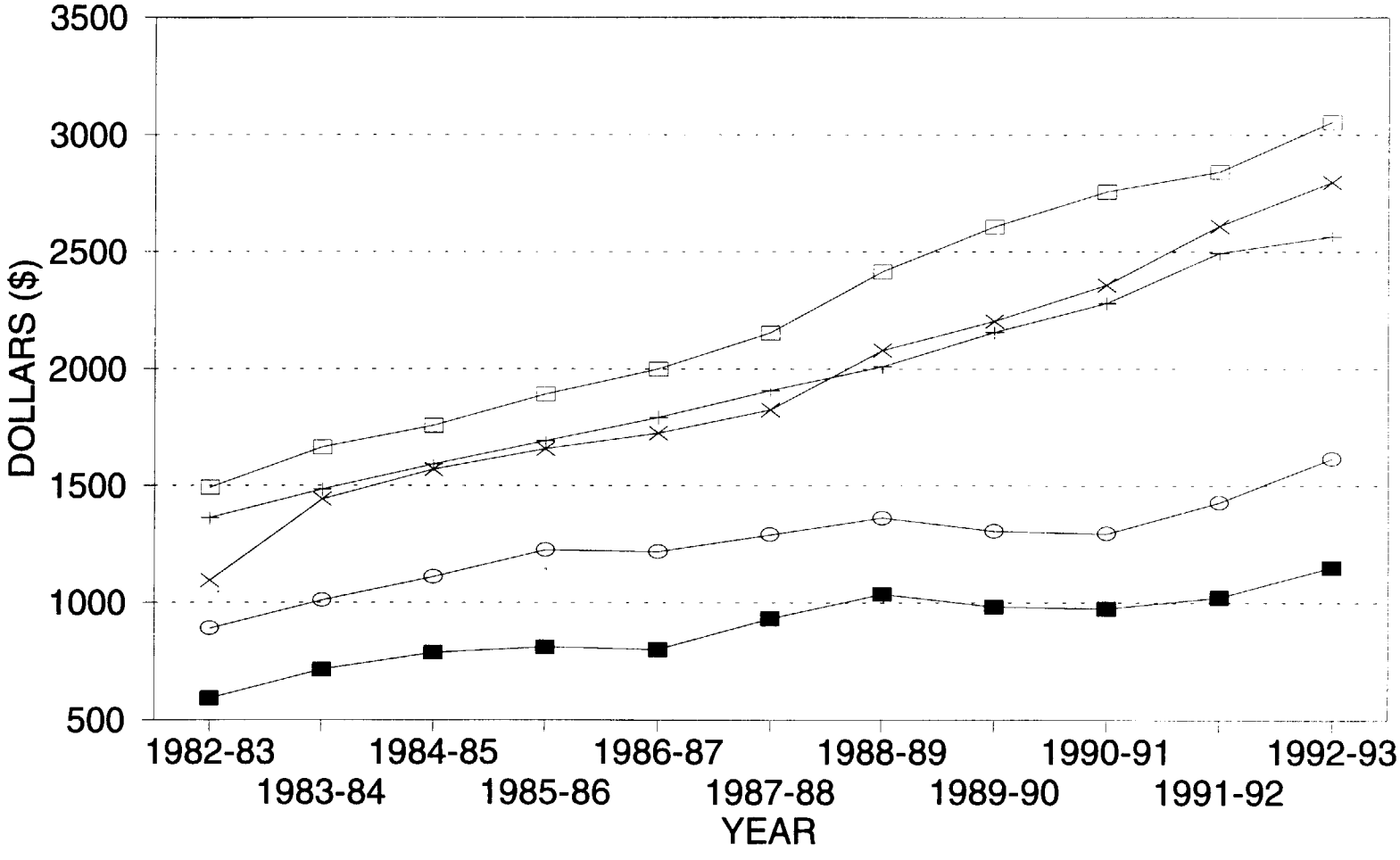
of Tax Revenue



Graph 1.4

Net Tuition

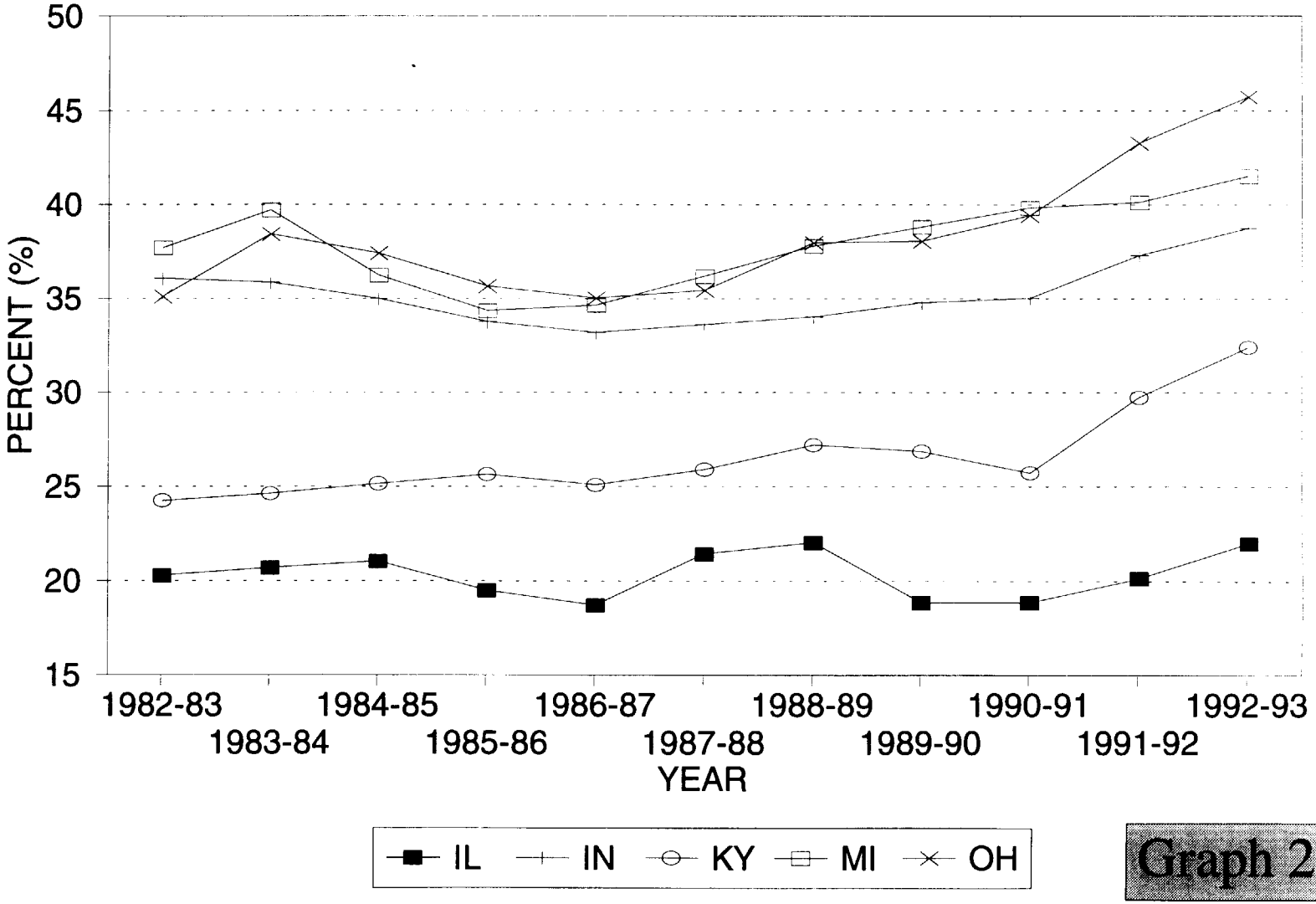
(average per student)



Graph 2.1

Net Tuition as a Percent

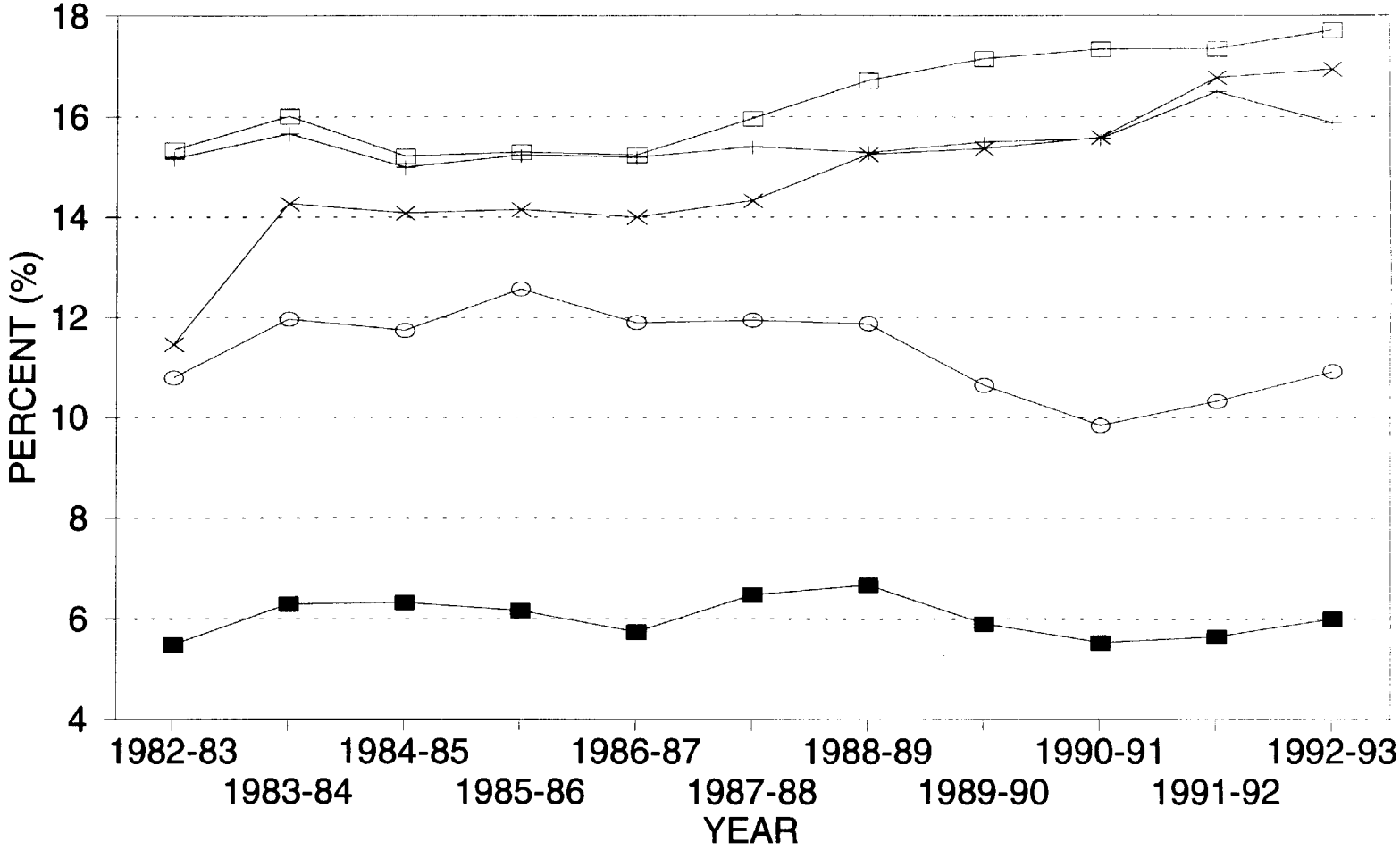
of the Total Expenditure



Graph 2.2

Net Tuition as a Percent

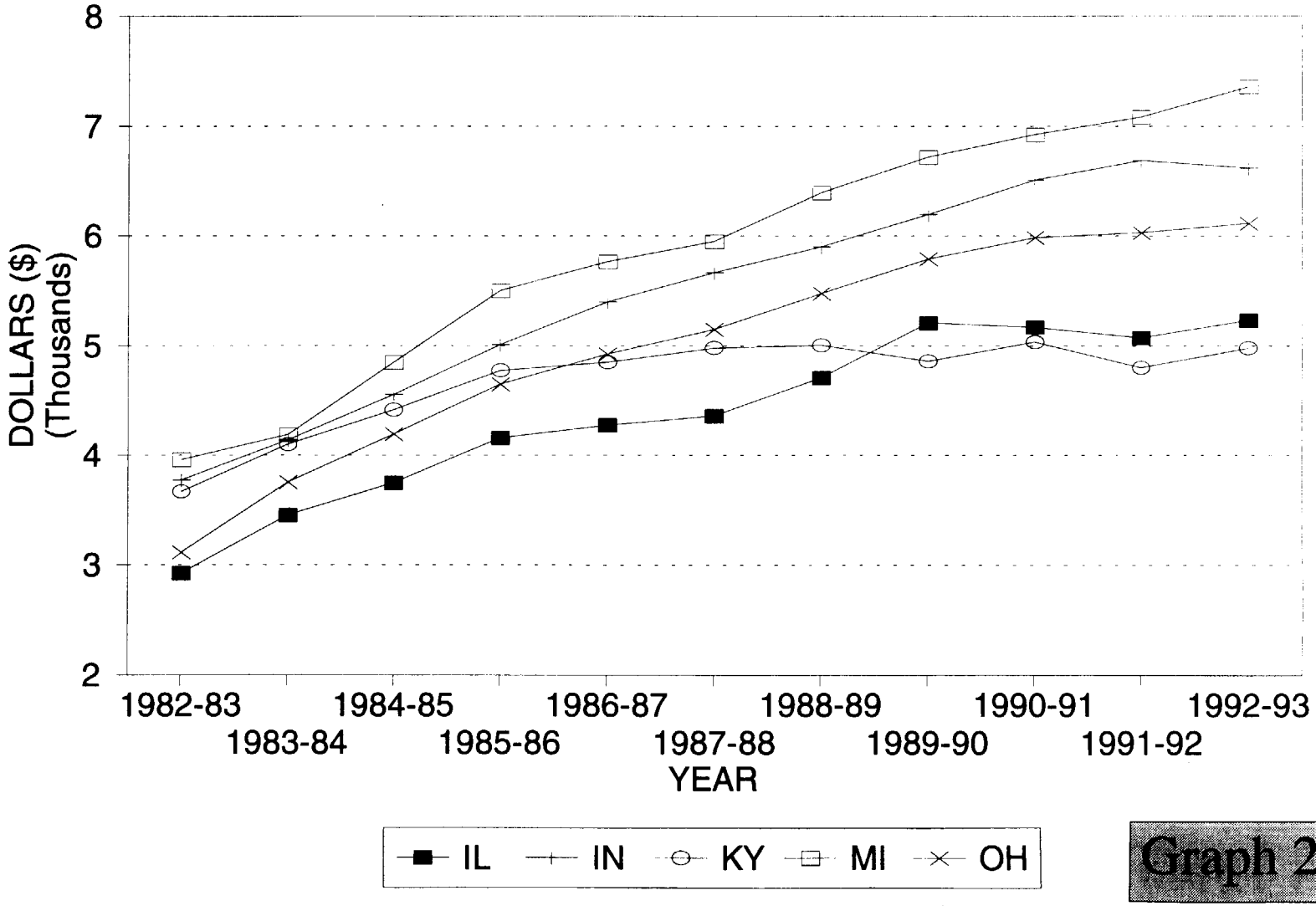
of the Personal Disposable Income



Graph 2.3

Total Expenditure for Higher Education

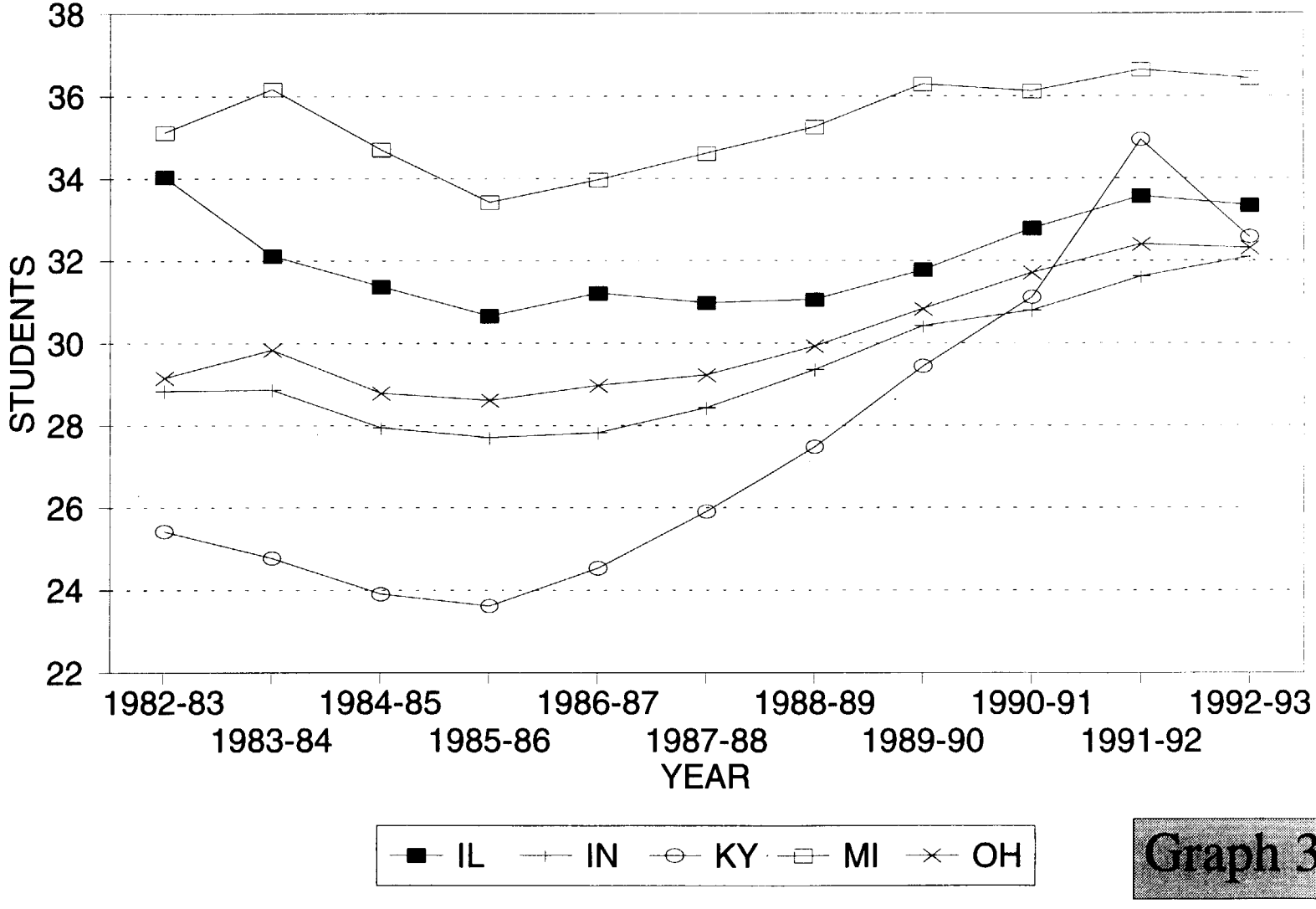
(appropriation + tuition)



Graph 2.4

Enrollment in State Institutions

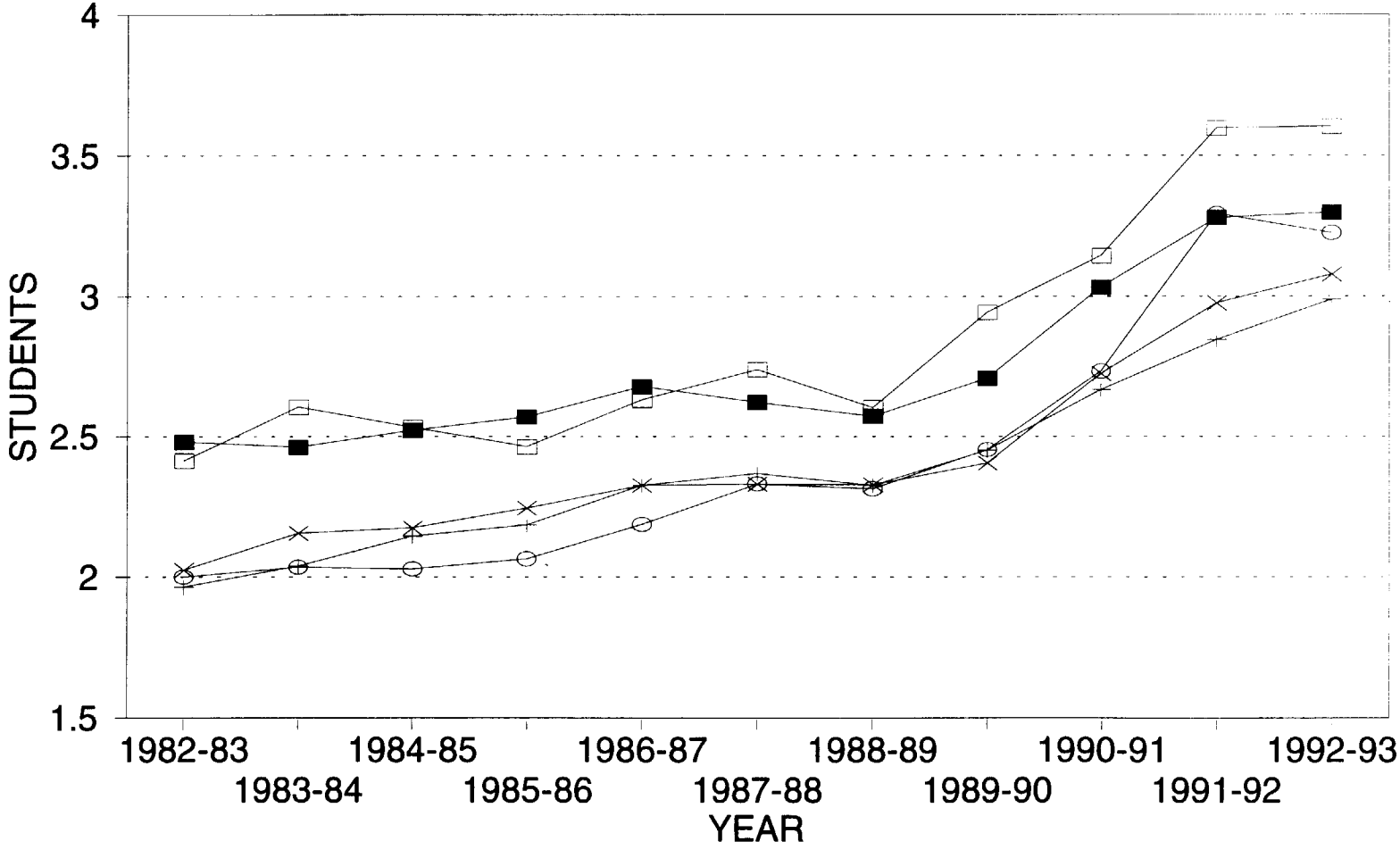
(FTE per 1000 population)



Graph 3.1

State Institution Participation Ratio

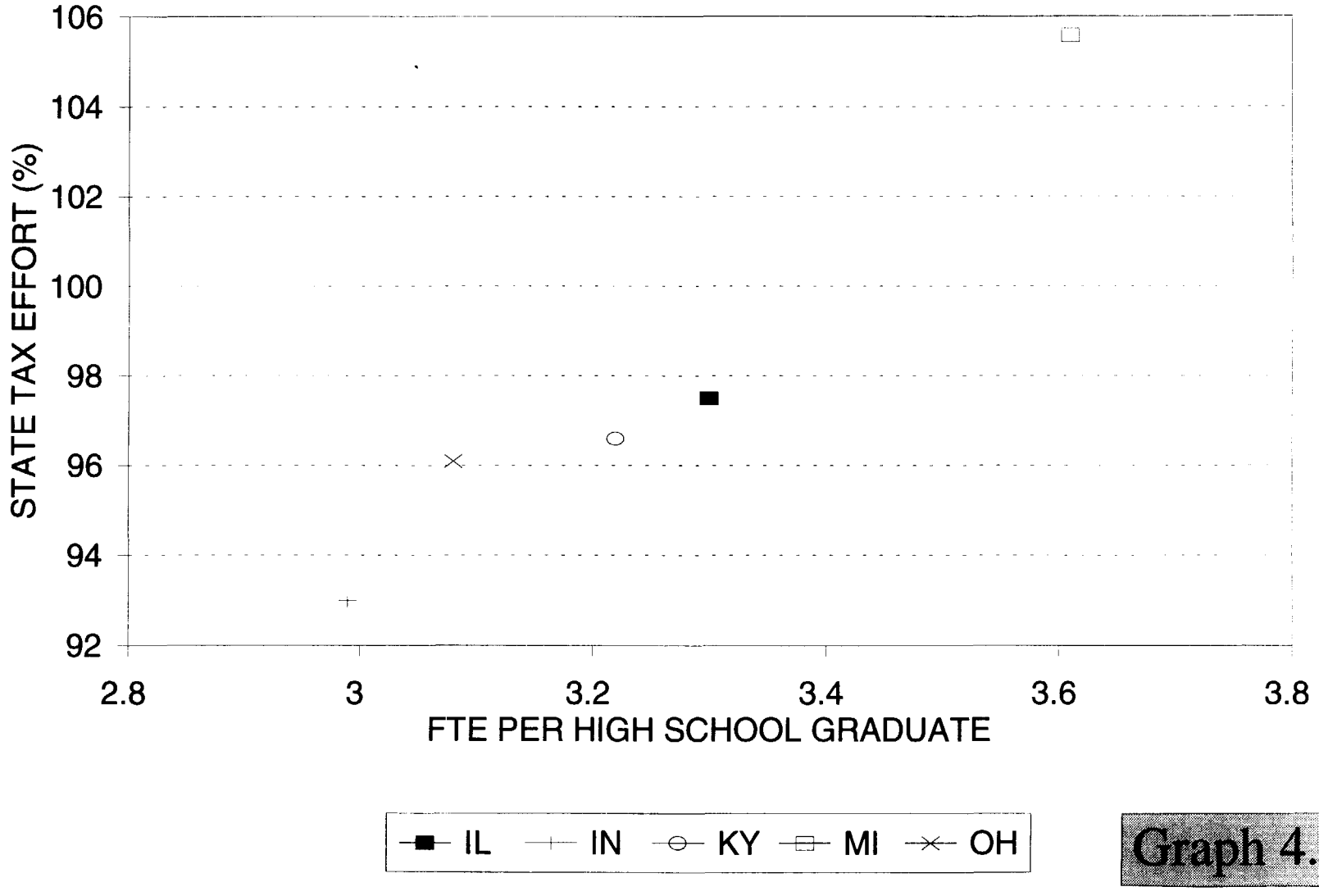
(FTE per high school graduate)



Graph 3.2

Tax Effort Versus

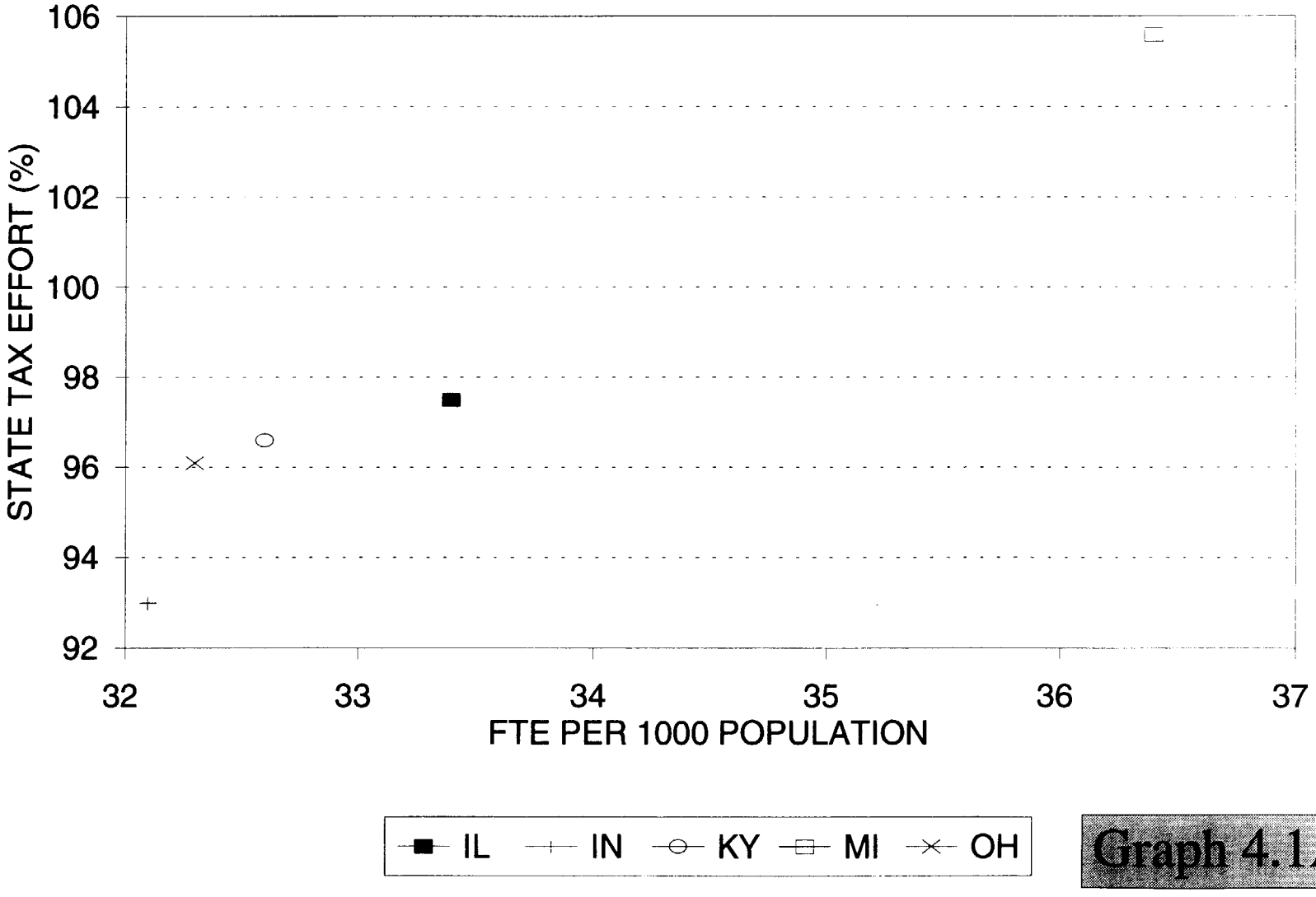
Student Participation Ratio



Graph 4.1

Tax Effort Versus

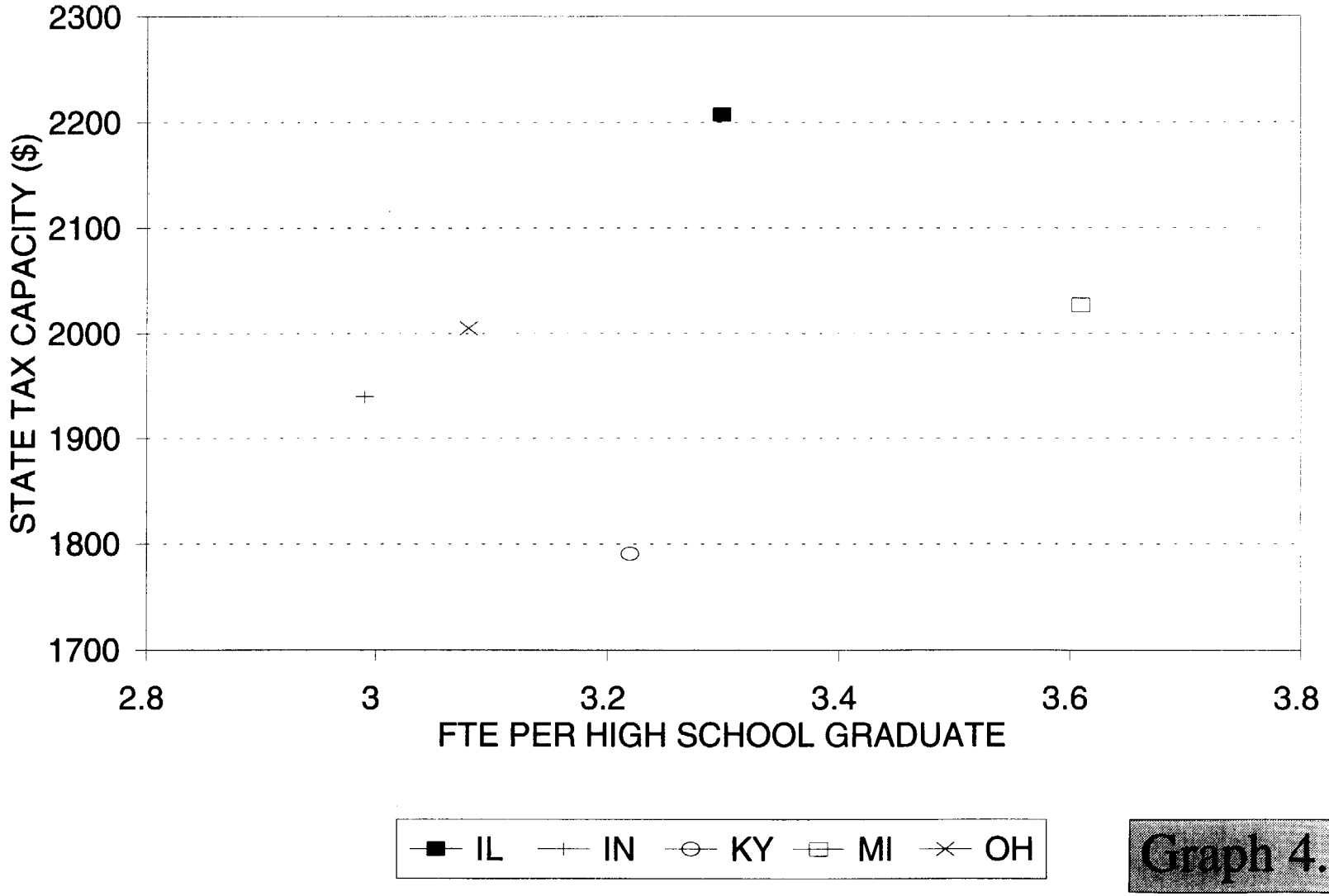
Student Enrollment



Graph 4.1A

Tax Capacity per Capita Versus

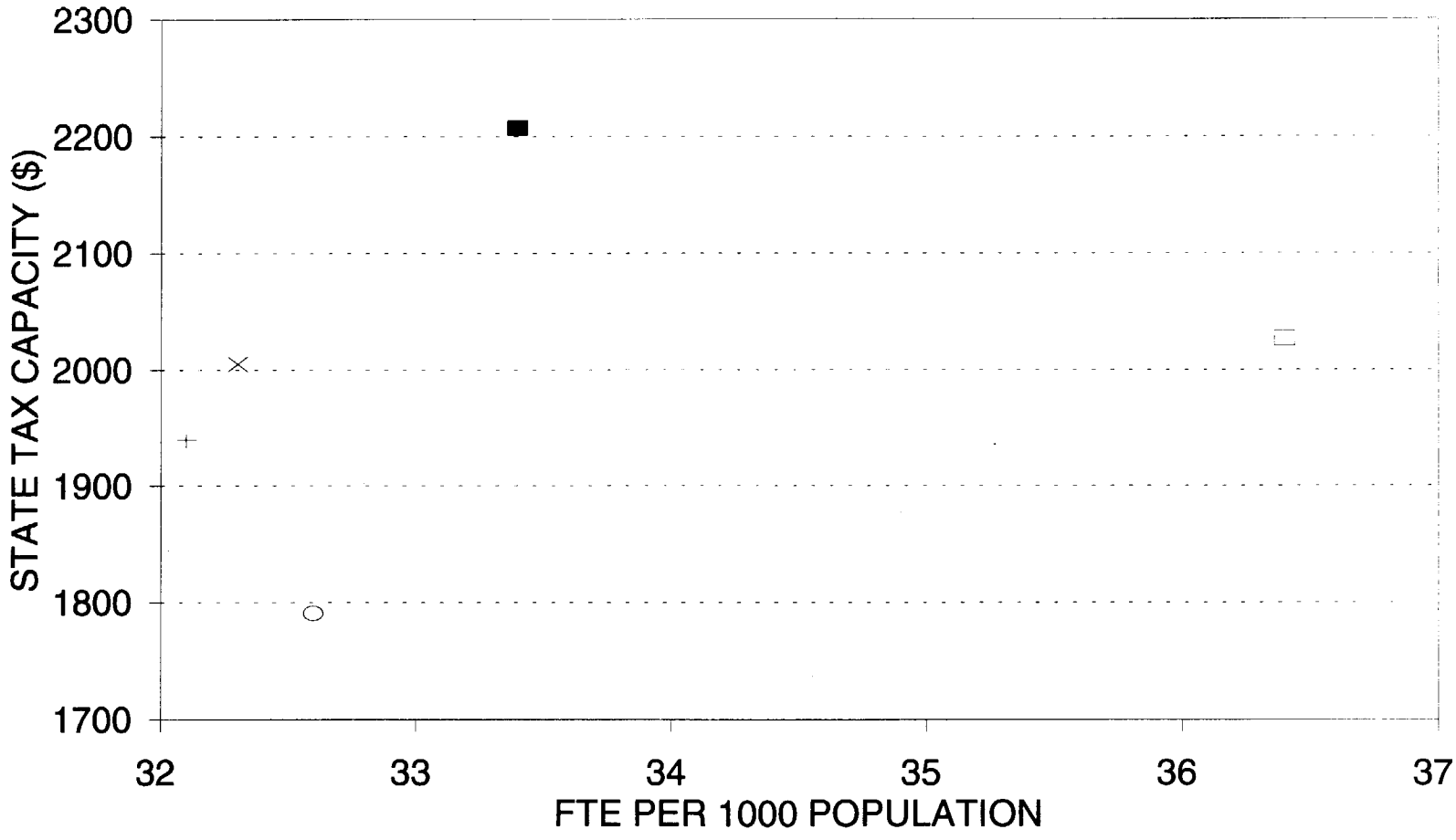
Student Participation Ratio



Graph 4.2

Tax Capacity per Capita Versus

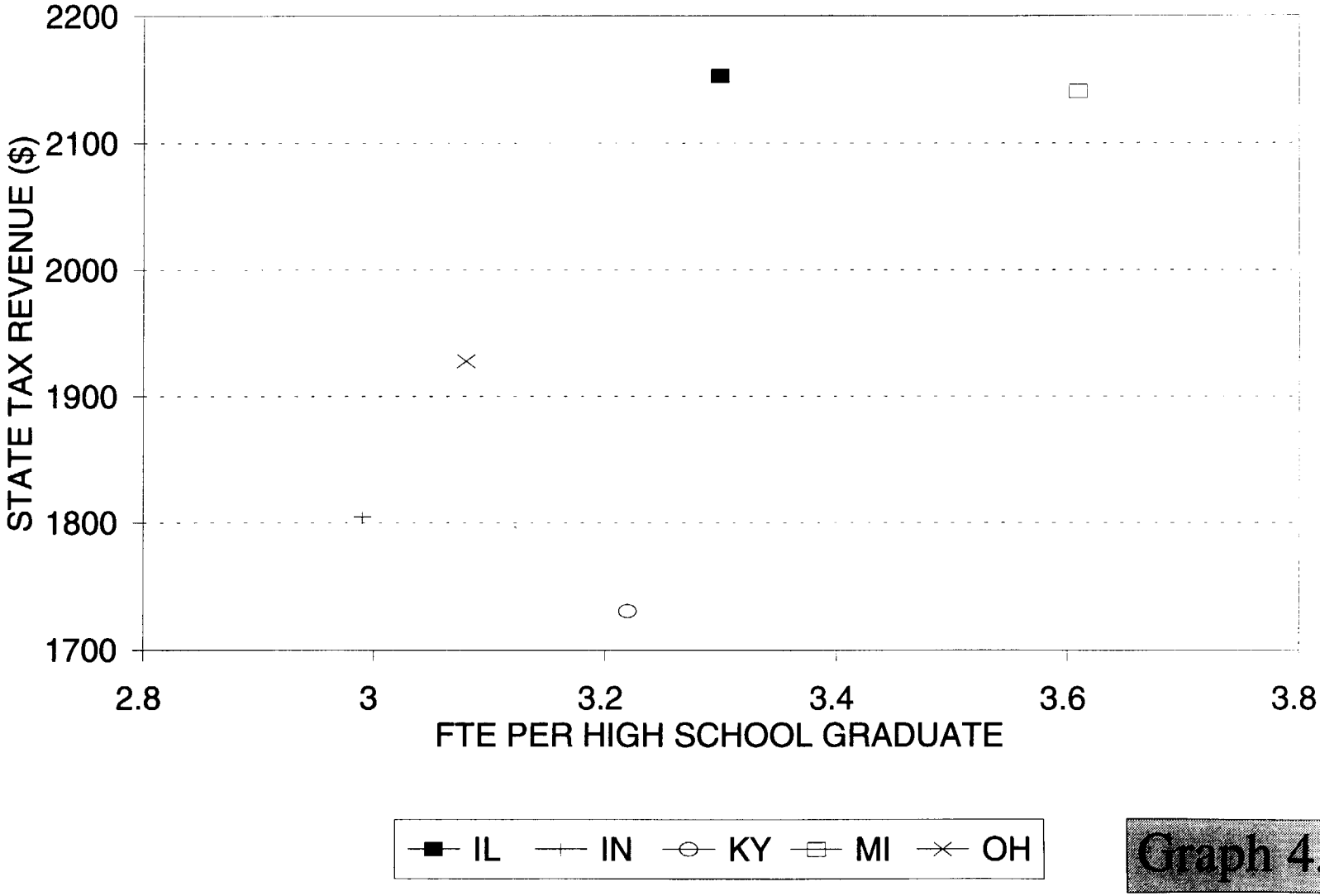
Student Enrollment



Graph 4.2A

Tax Revenue per Capita Versus

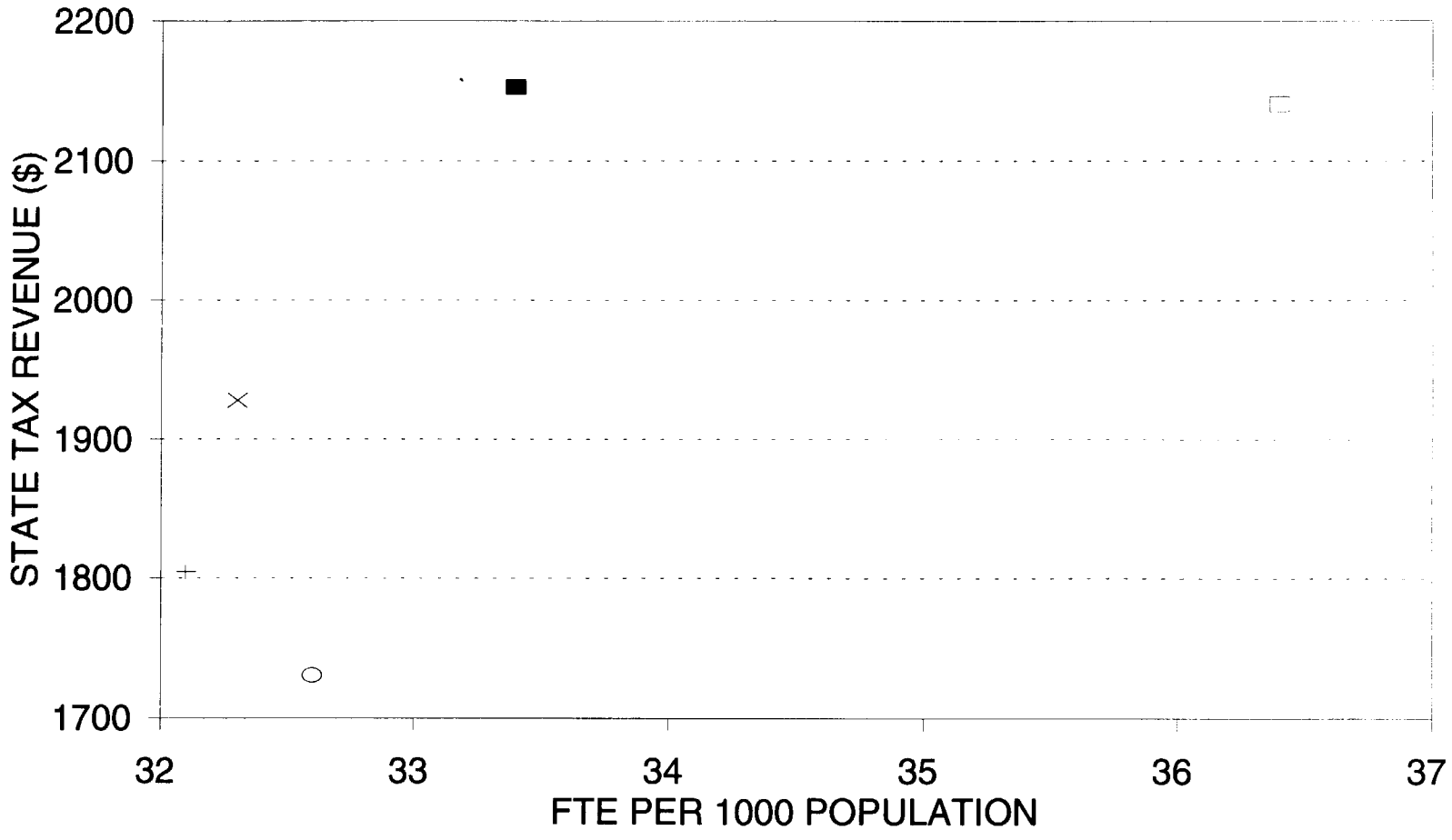
Student Participation Ratio



Graph 4.3

Tax Revenue per Capita Versus

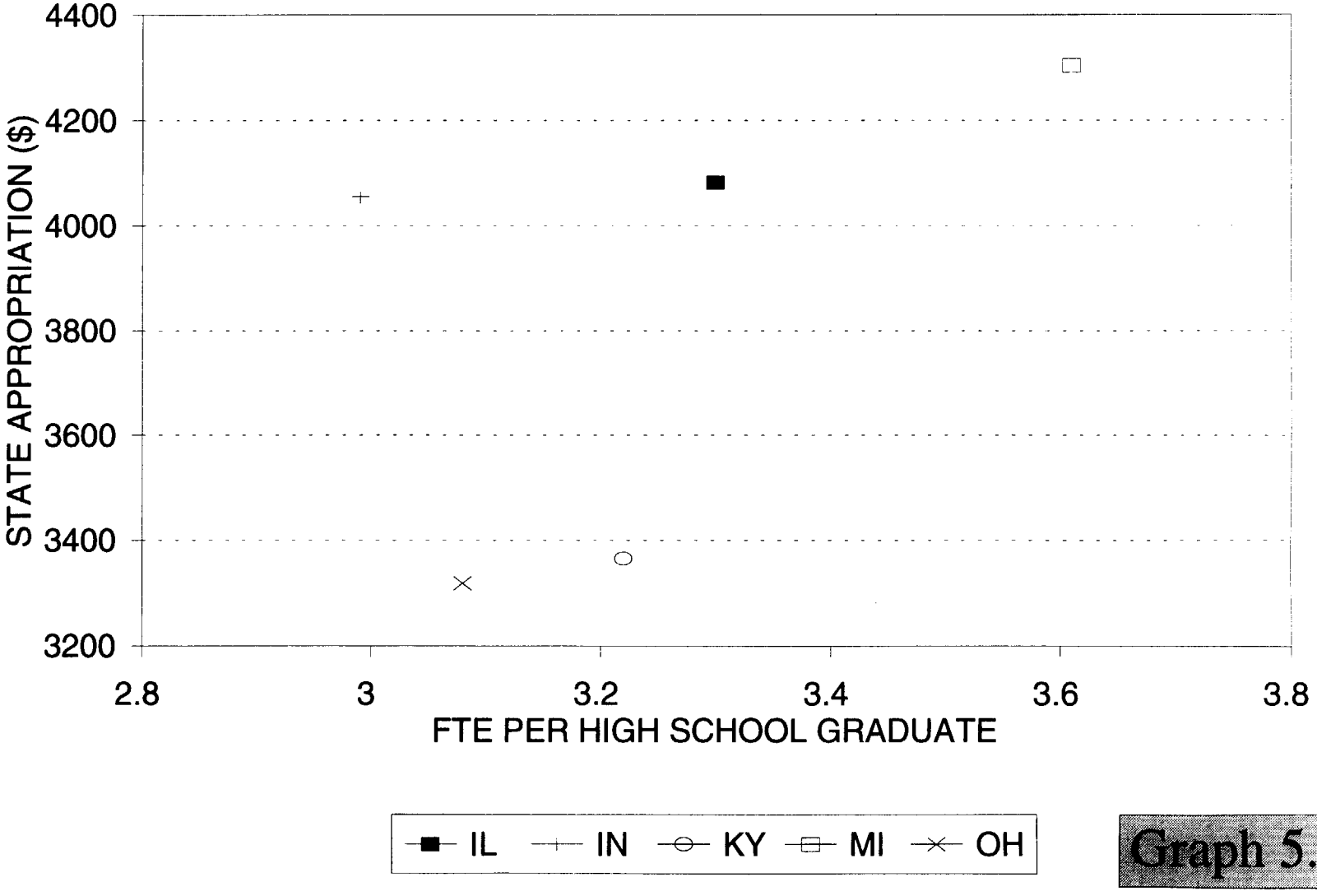
Student Enrollment



Graph 4.3A

State Appropriation per FTE Versus

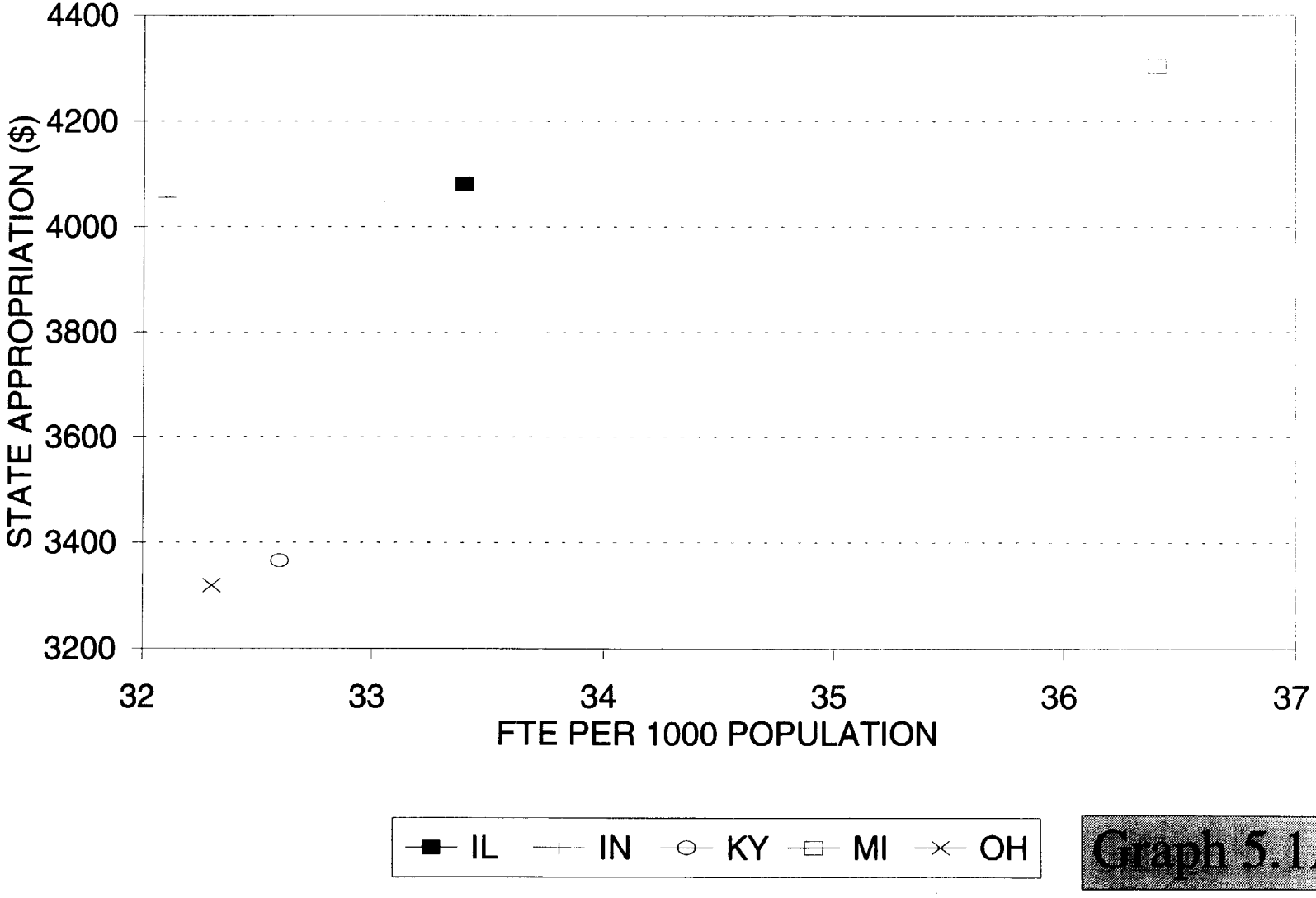
Student Participation Ratio



Graph 5.1

State Appropriation per FTE Versus

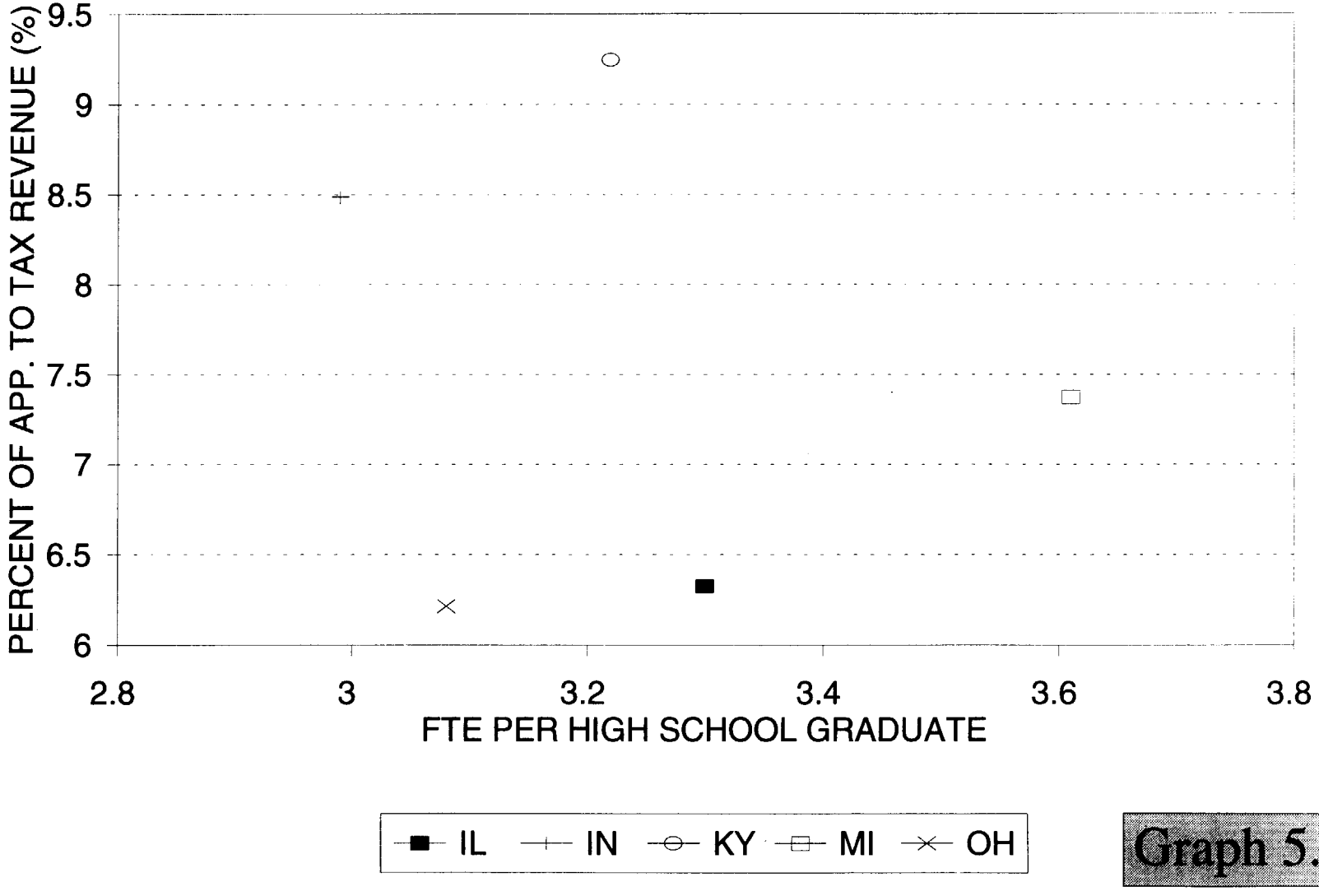
Student Enrollment



Graph 5.1A

Appropriation as a Percent of Revenue

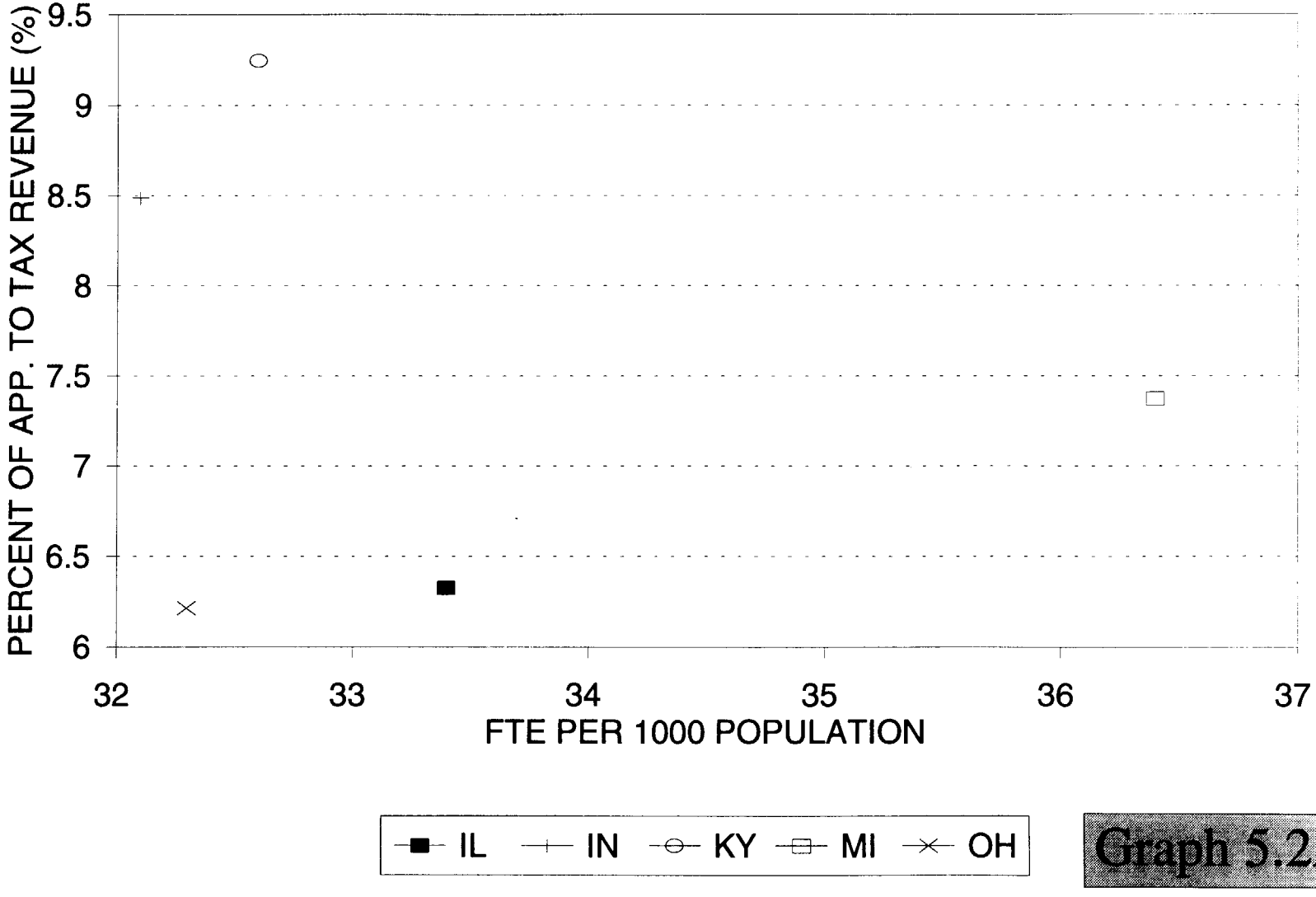
Versus Student Participation Ratio



Graph 5.2

Appropriation as a Percent of Revenue

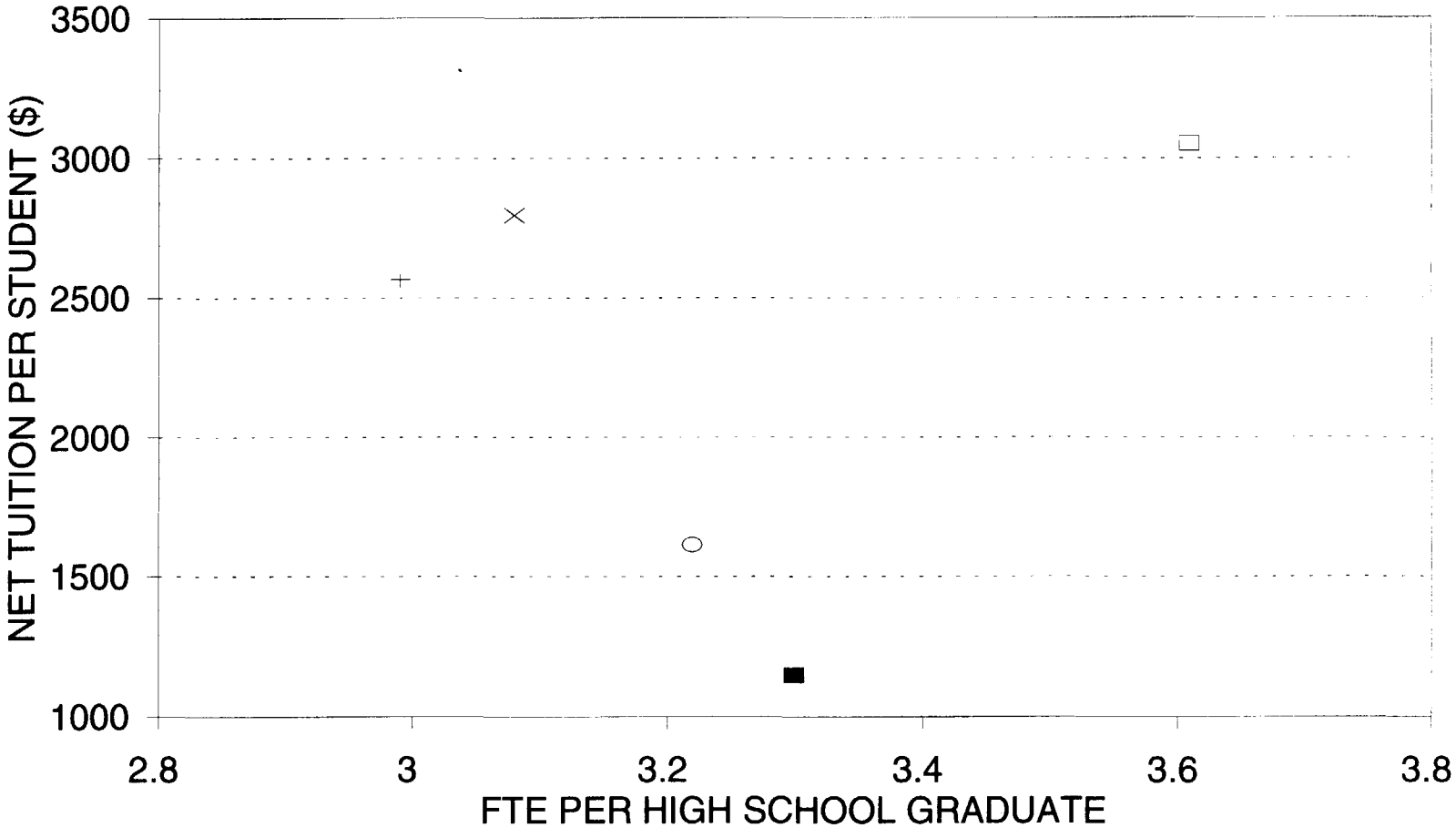
Versus Student Enrollment



Graph 5.2A

Net Tuition per Student Versus

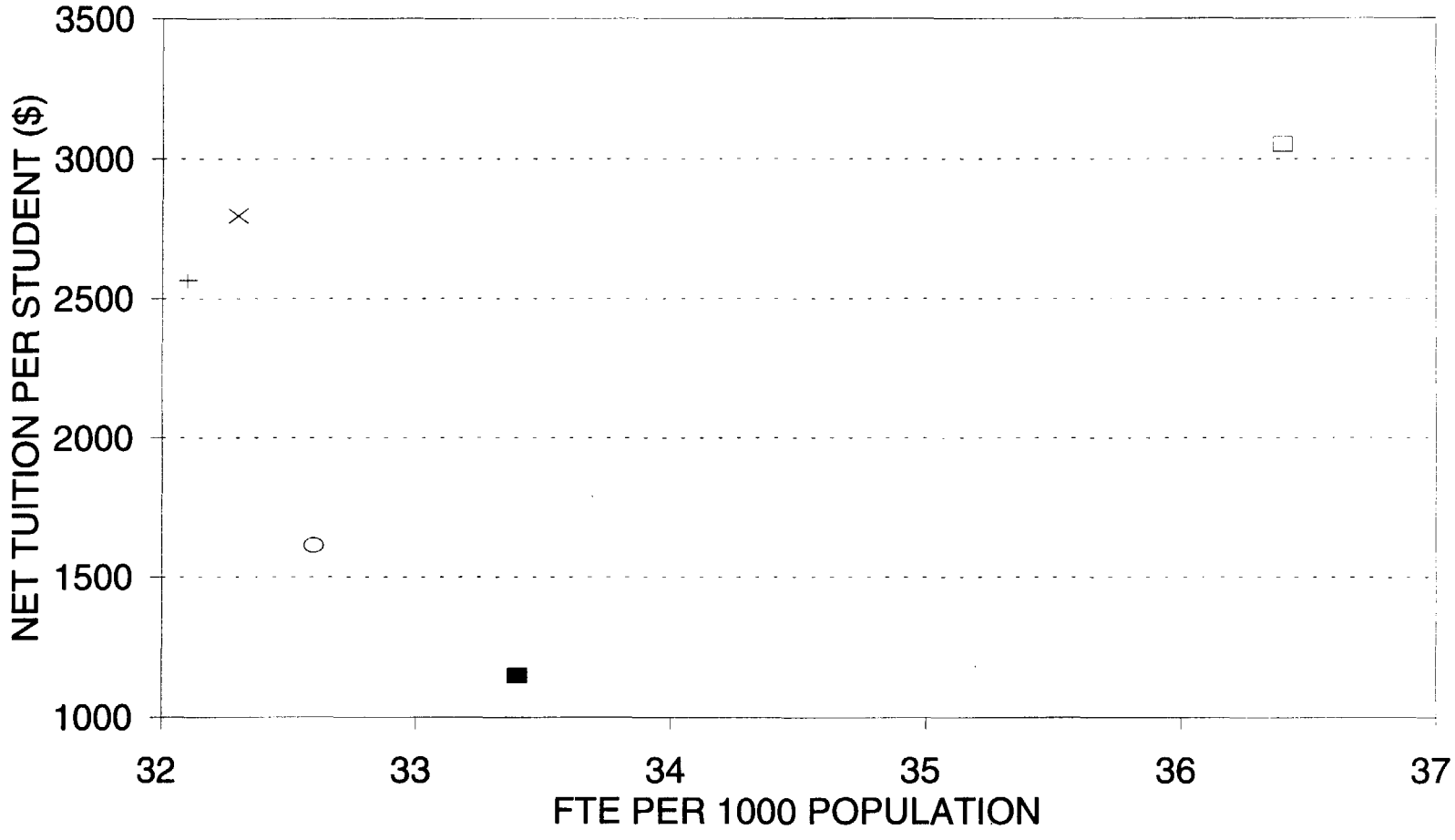
Student Participation Ratio



Graph 6.1

Net Tuition per Student Versus

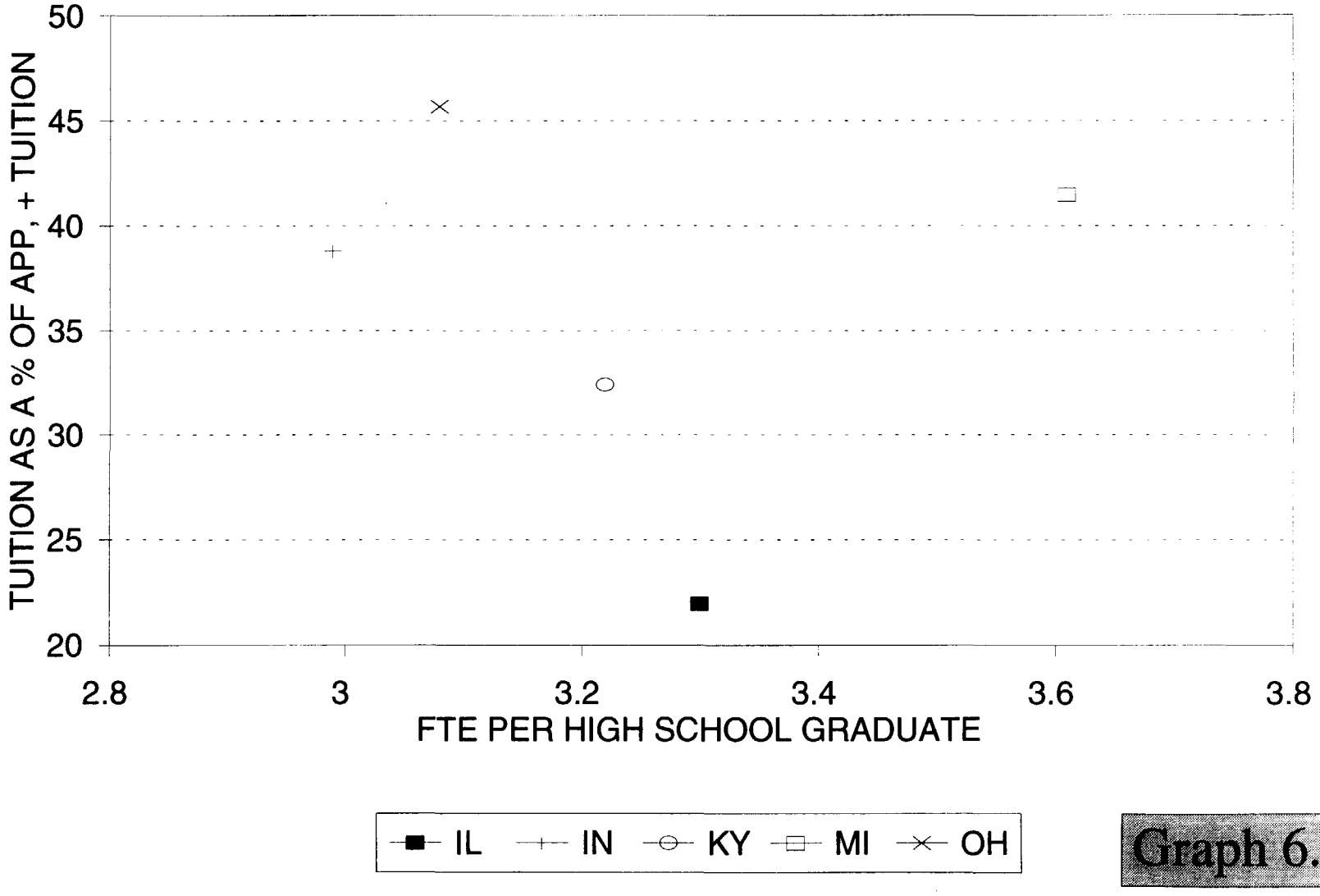
Student Enrollment



Graph 6.1A

Tuition as Percent of Total Expense

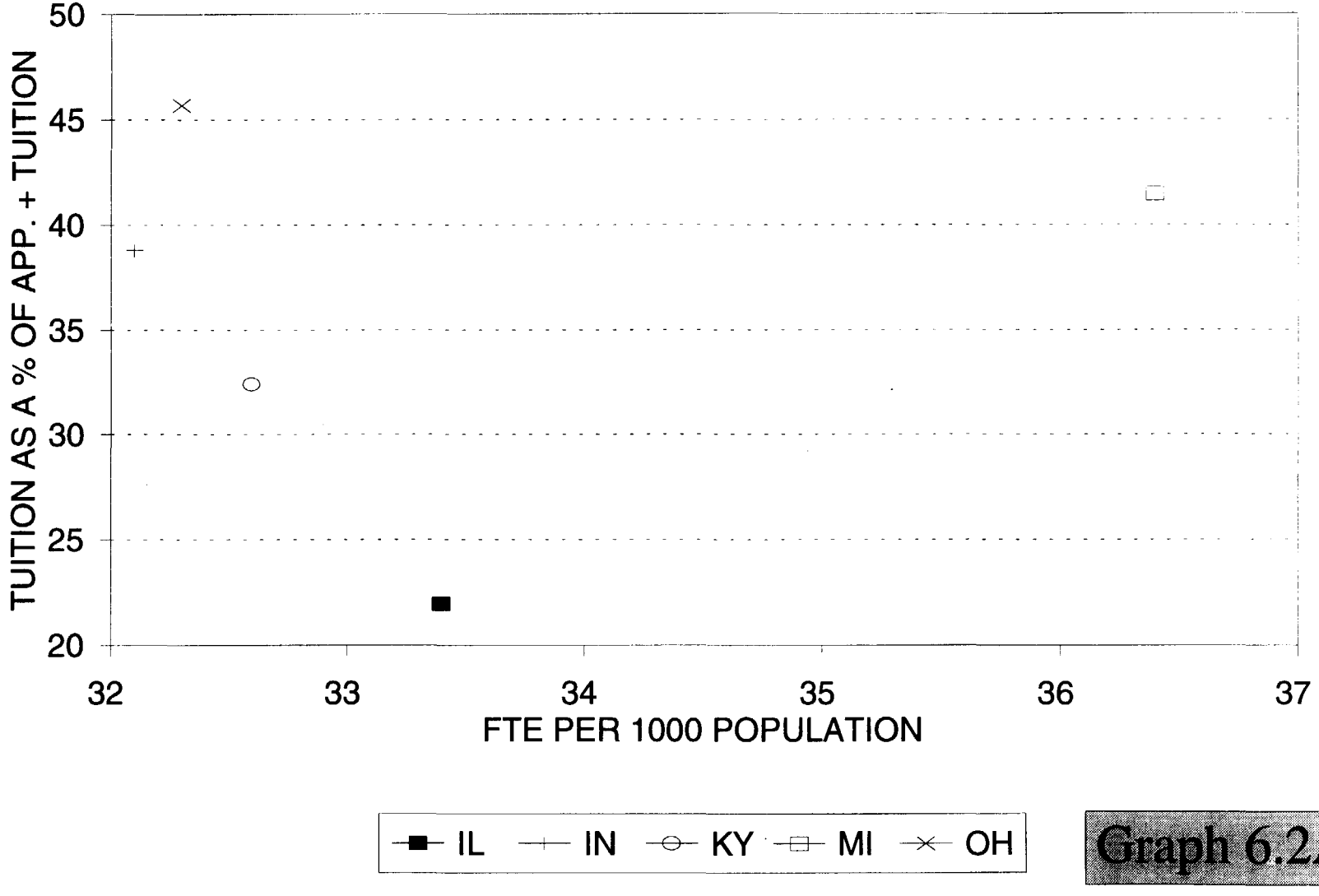
Versus Student Participation Ratio



Graph 6.2

Tuition as a Percent of Total

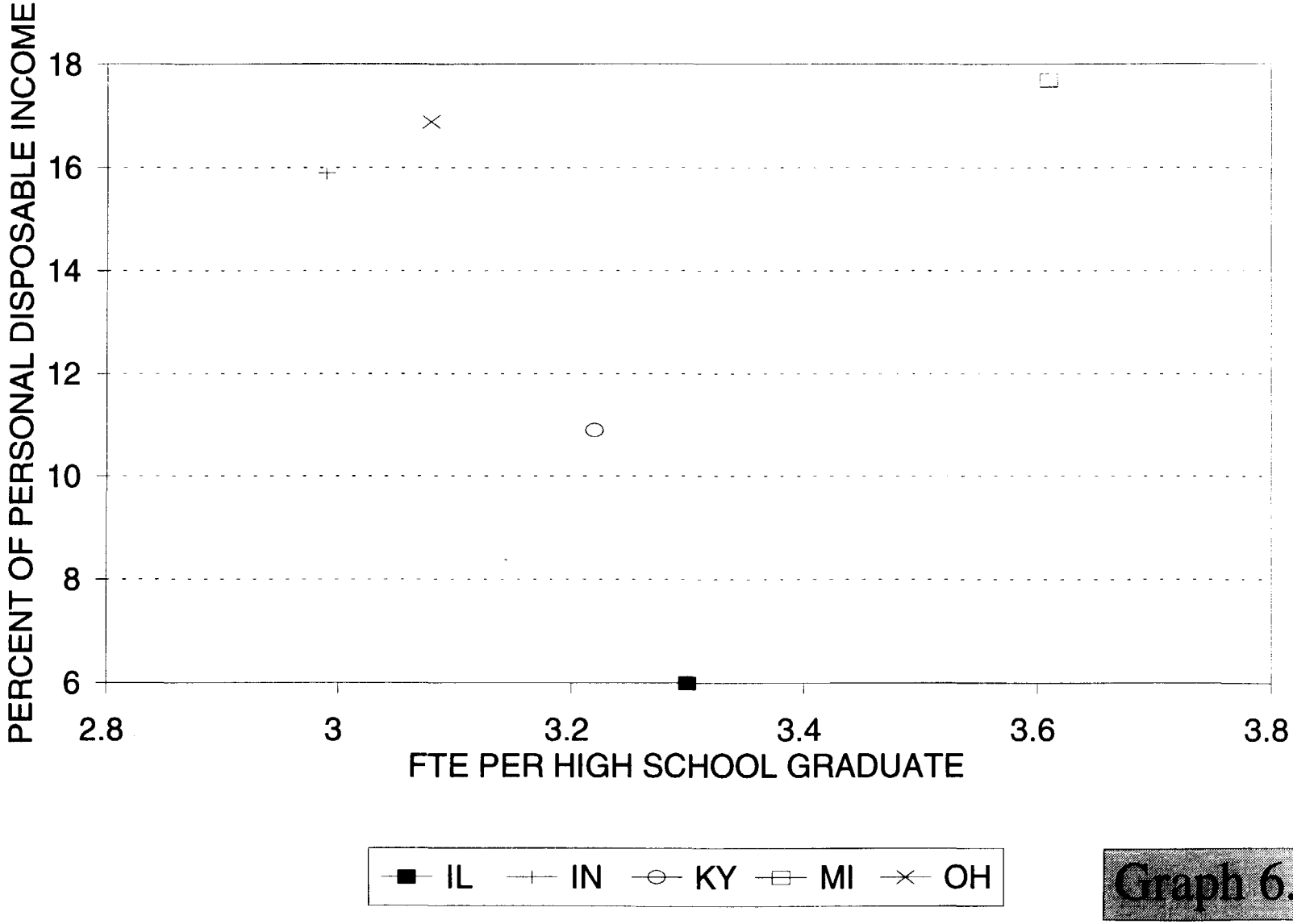
Expenditure Versus Student Enrollment



Graph 6.2A

Tuition as Percent of PDI Versus

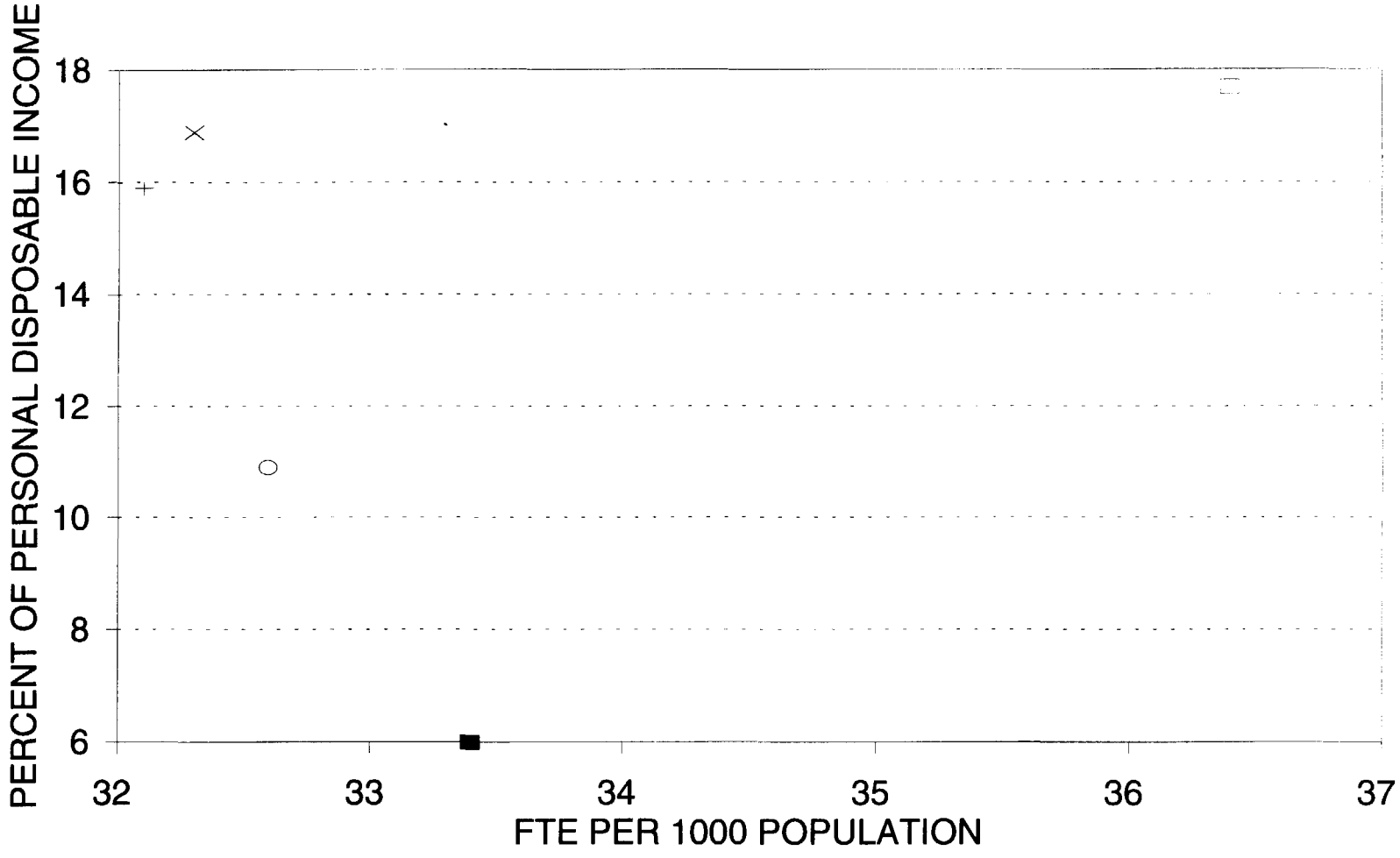
Student Participation Ratio



Graph 6.3

Tuition as a Percent of PDI Versus

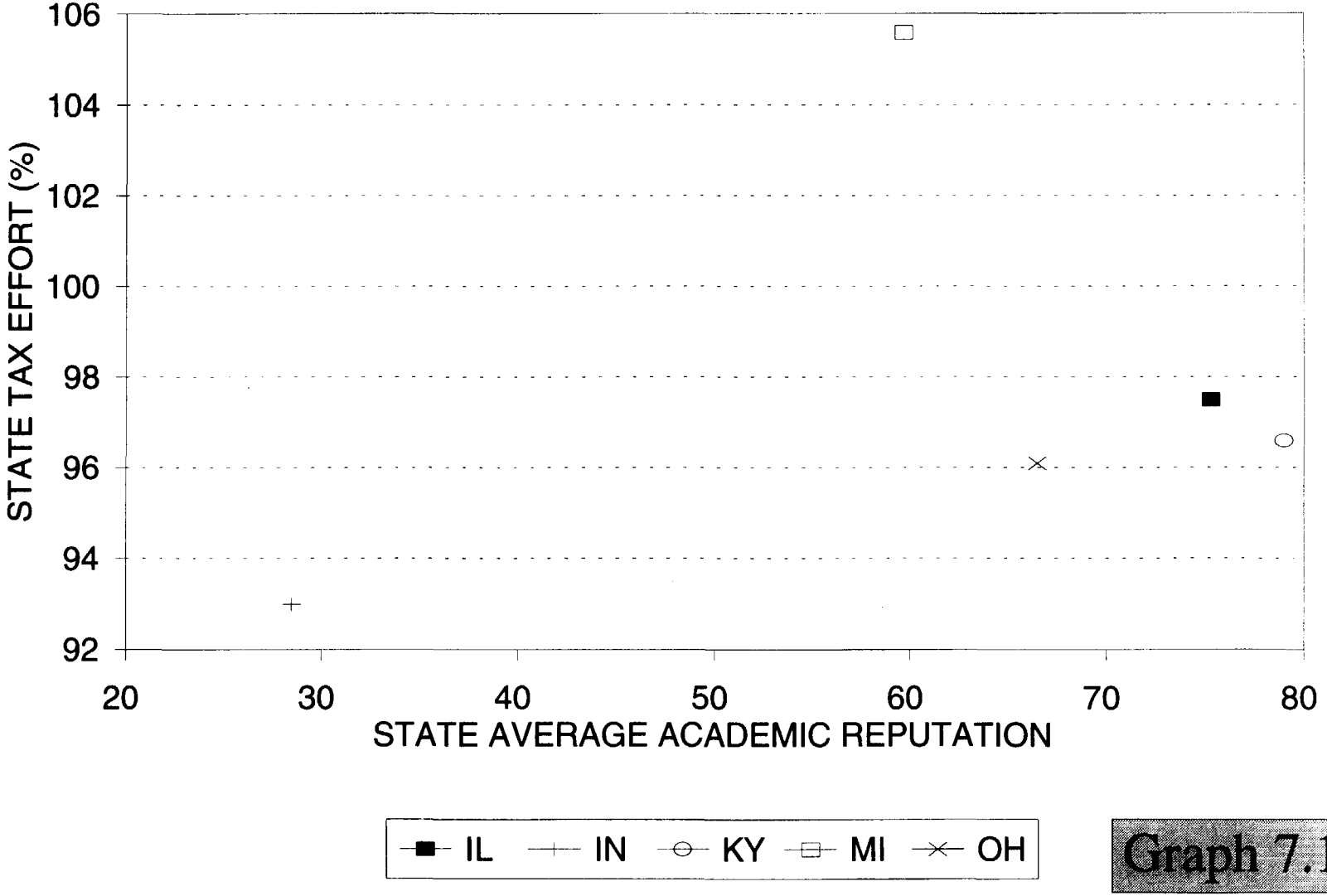
Student Enrollment



Graph 6.3A

Tax Effort Versus

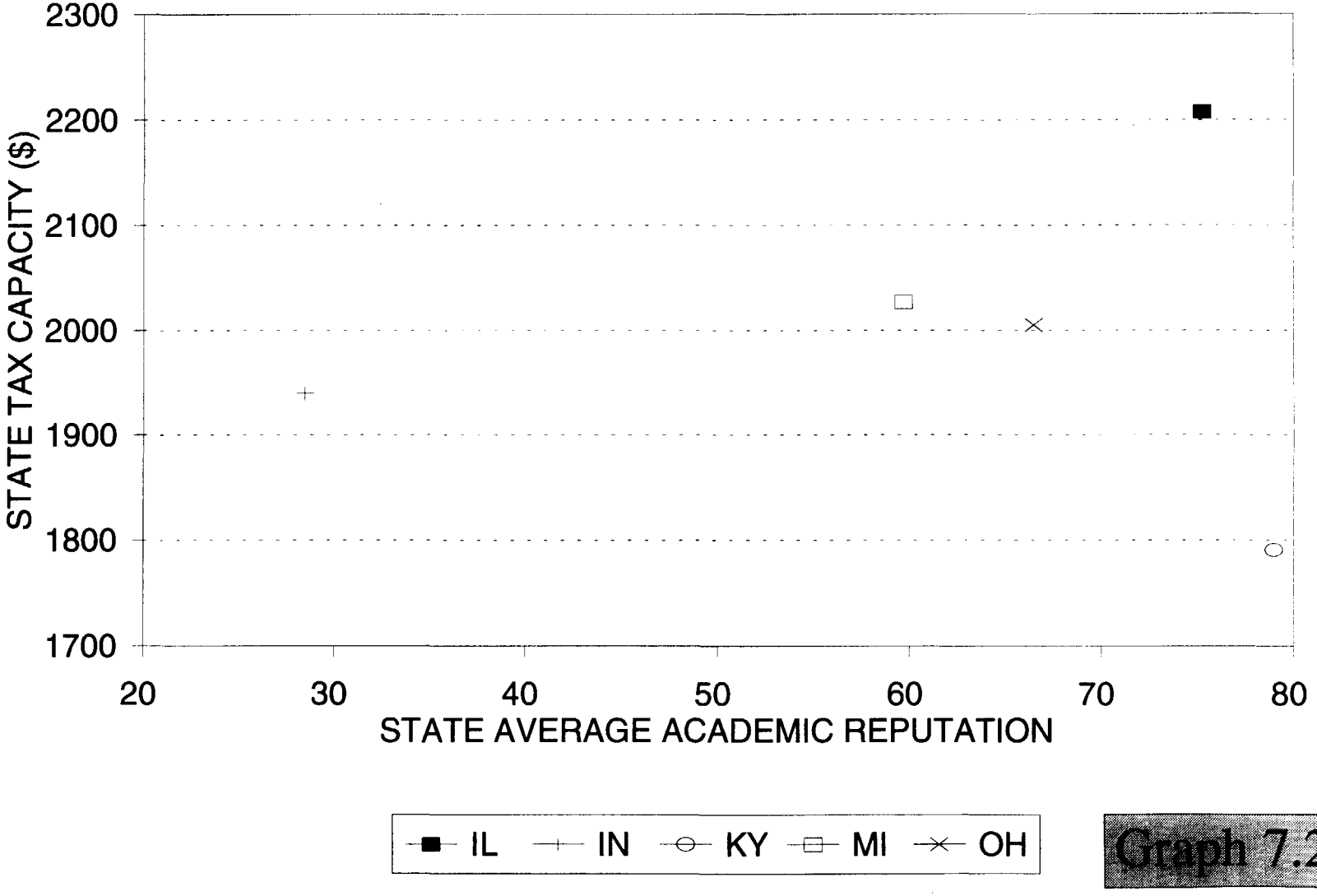
Academic Reputation



Graph 7.1

Tax Capacity per Capita Versus

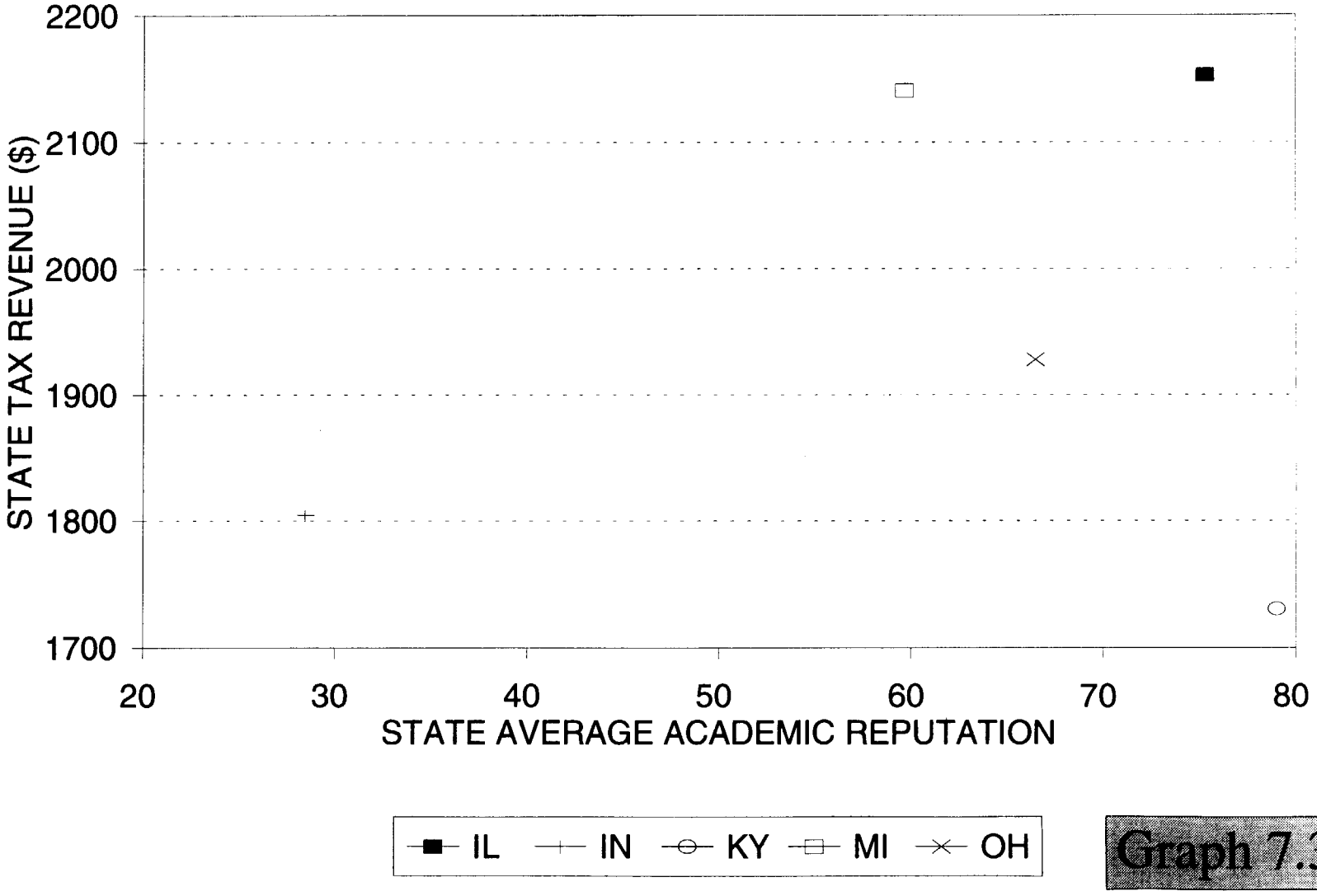
Academic Reputation



Graph 7.2

Tax Revenue per Capita Versus

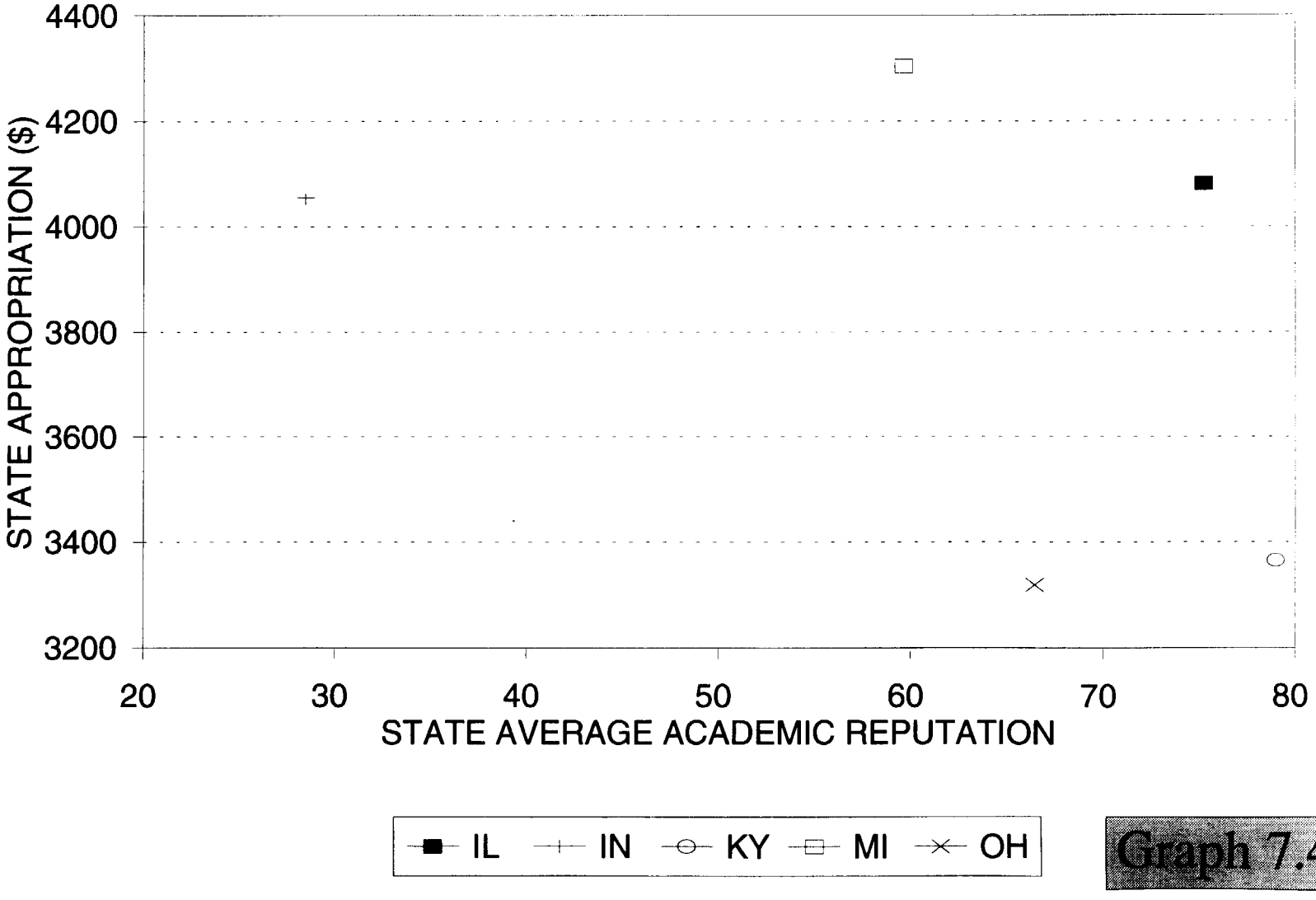
Academic Reputation



Graph 7.3

State Appropriation per FTE Versus

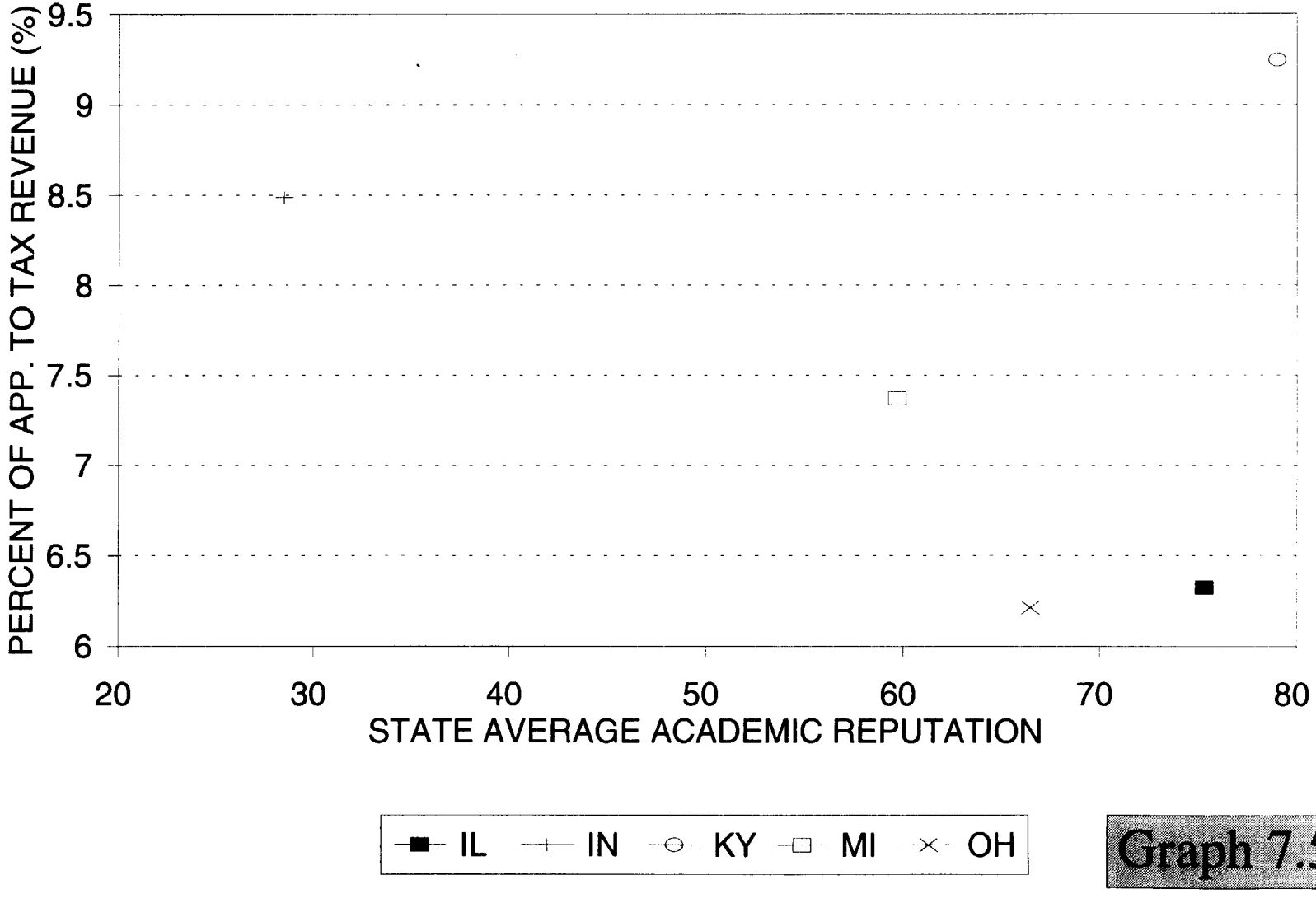
Academic Reputation



Graph 7.4

Appropriation as a Percent of Revenue

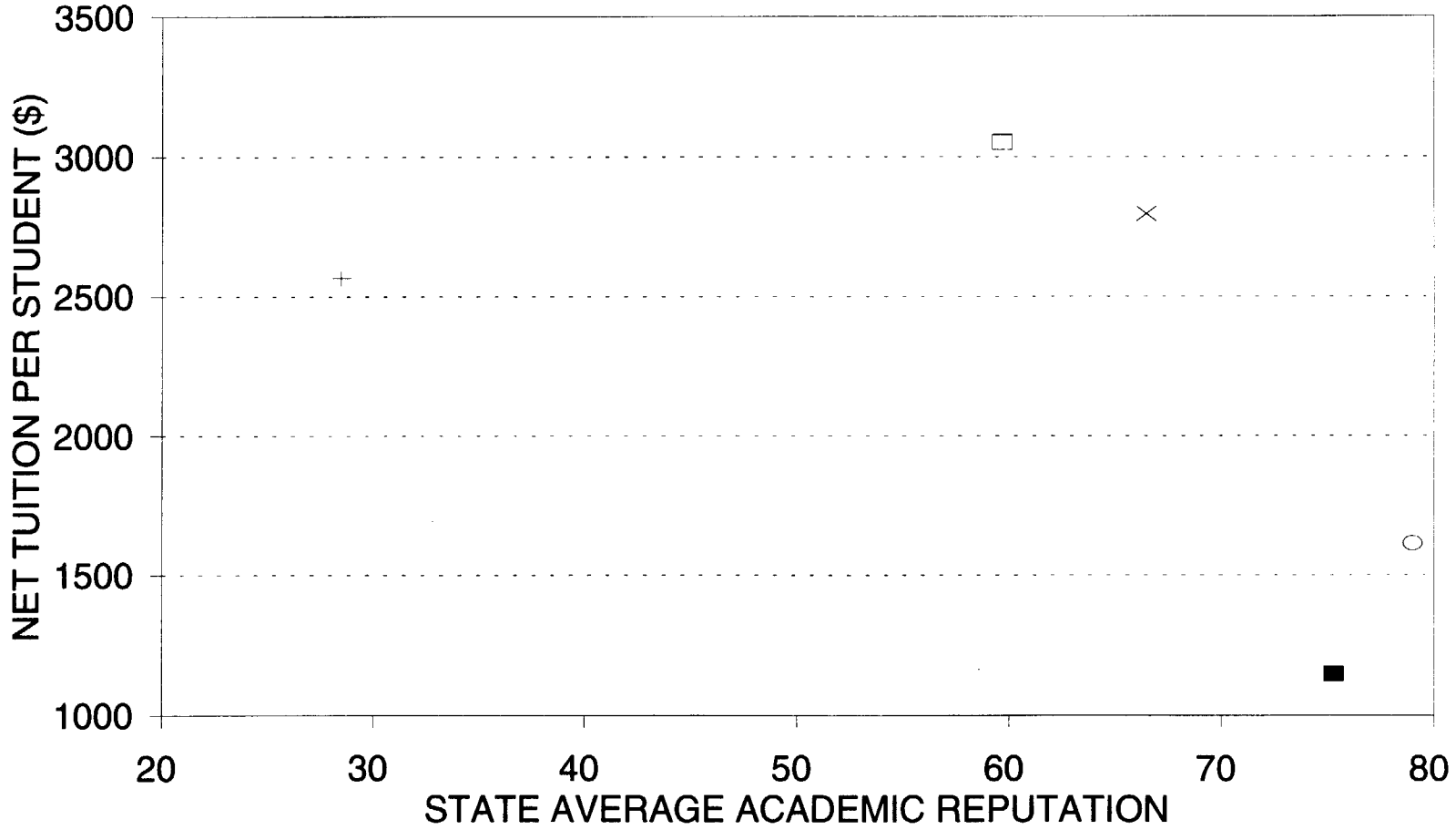
Versus Academic Reputation



Graph 7.5

Net Tuition per Student Versus

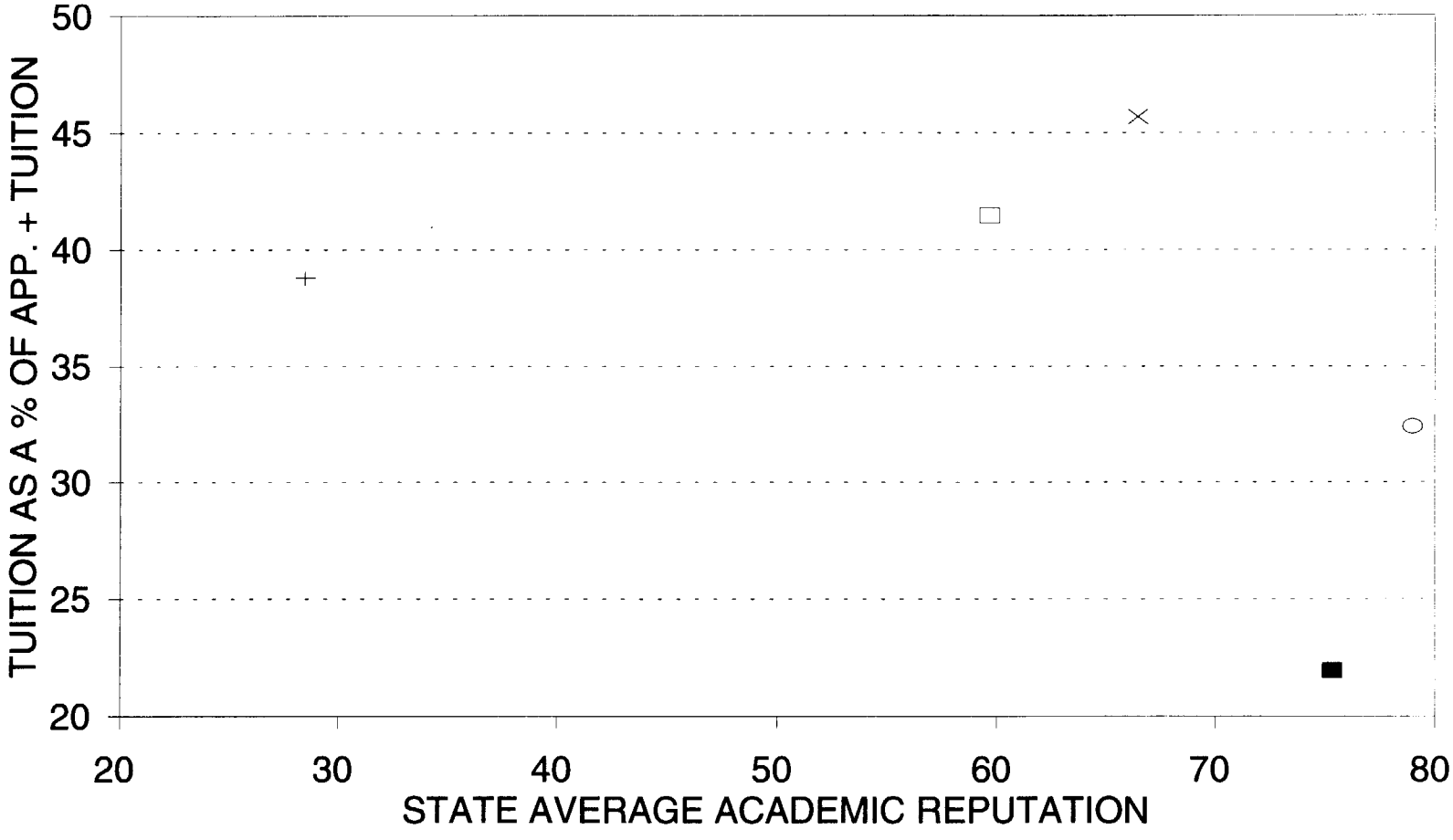
Academic Reputation



Graph 7.6

Tuition as a Percent of Total Expense

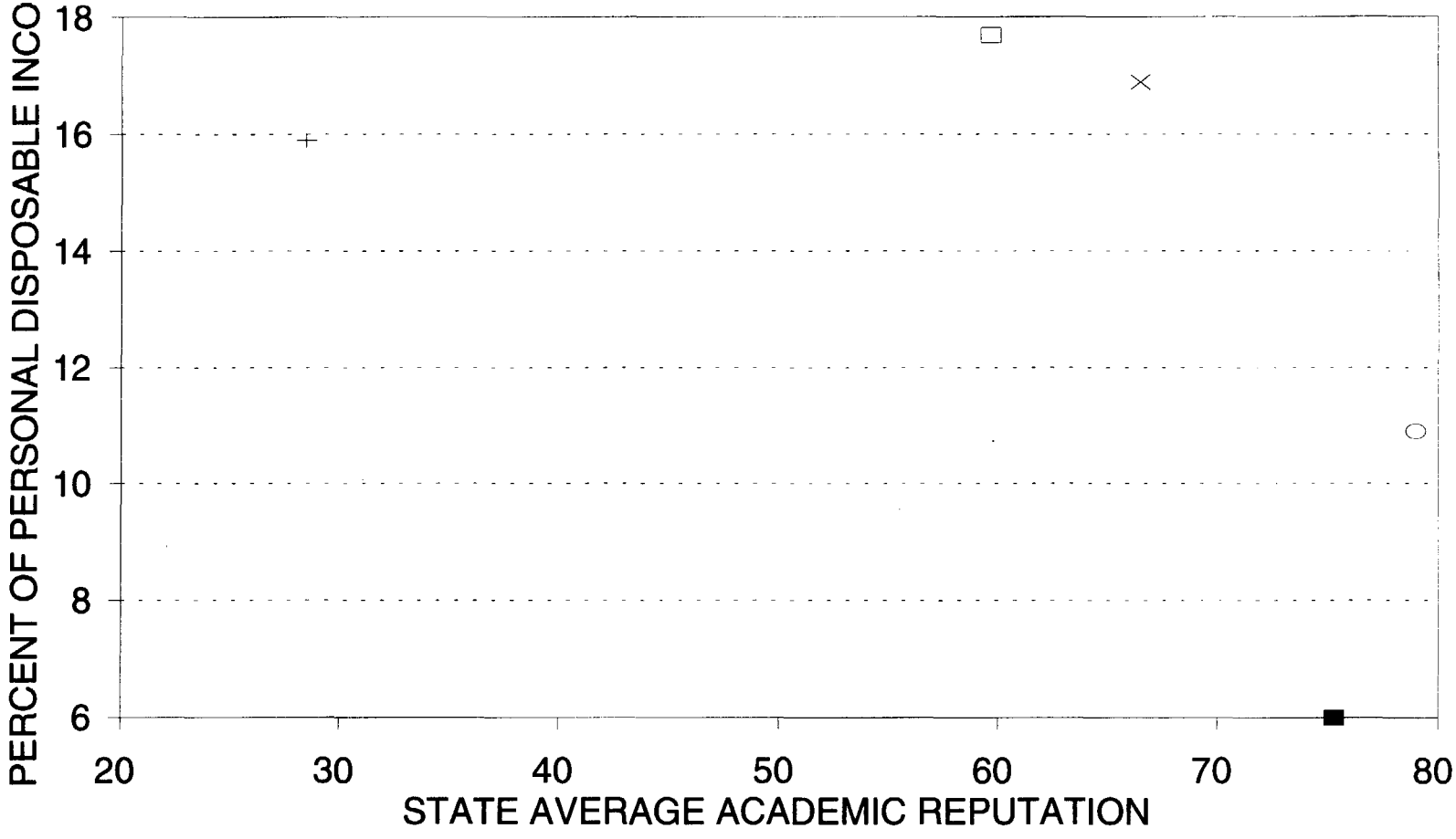
Versus Academic Reputation



Graph 7.7

Tuition as a Percent of PDI Versus

Academic Reputation



Graph 7.8

Table 1.1

National Universities

	Reputation
ILLINOIS	
University of Illinois - Champaign	16
Univerisity of Illinois - Chicago	79
Southern Illinois University - Carbondale	131
IL state average	***75.3***
INDIANA	
Indiana University	26
Purdue University	31
IN state average	***28.5***
KENTUCKY	
University of Kentucky	79
KY state average	***79***
MICHIGAN	
University of Michigan - Ann Arbor	7
Michigan State University	41
Wayne State University	131
MI state average	***59.7***
OHIO	
The Ohio State University	31
University of Cincinnati	102
OH state average	***66.5***